



OMICRON CHI EPSILON JOURNAL

National Honor Society in Economics

Vol. III No. 1

MAY, 1959

EDITORIAL

Introductory Notes	1
by Enzo V. Allegretti	

ARTICLES

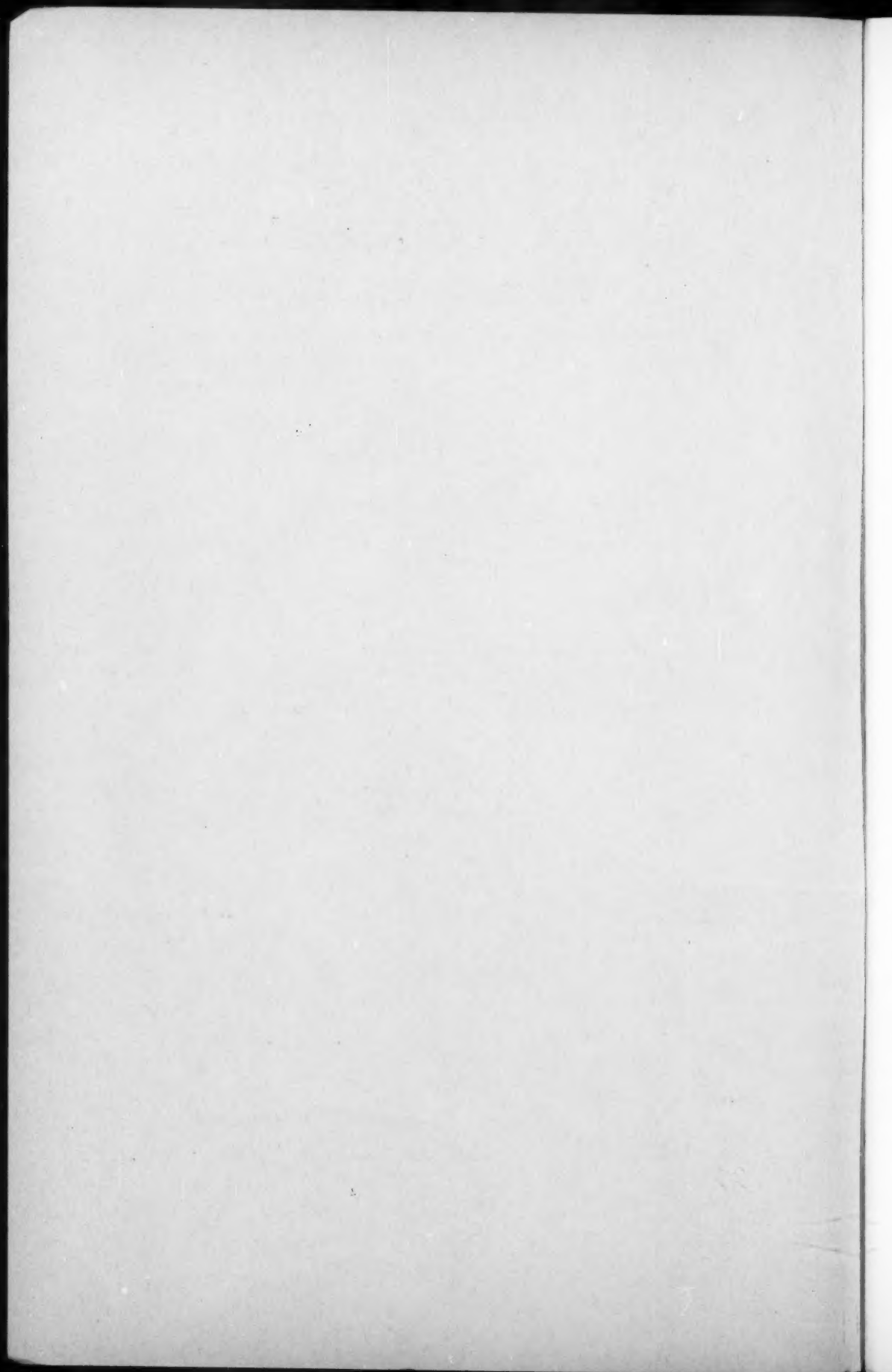
The Theory of Economic Development Reconsidered	2
by Dr. Friedrich Baerwald	
The Dollar Shortage — A Comparison of International Trade During the 19th and 20th Century	8
by Donald E. Farrar	
An Analysis of Economic Employment — Looking for A Job	29
by James J. D'Amato	

COMMUNICATIONS

Chapter News — 1958-59	31
Editorial Staff	

NOTES

President's Report 1958-59	36
by Alan Brown	
President's Report 1959-60	37
by Gil C. Alroy	
Minutes of the Fourth Annual Convention of Omicron Chi Epsilon, Hofstra College ...	38
by Andrew R. Blair	



JOURNAL OF OMICRON CHI EPSILON NATIONAL HONOR SOCIETY IN ECONOMICS

Enzo Allegretti, Editor-in-Chief
James J. D'Amato, Assistant Editor

Volume III

May 1959

Number 1

From the initiative of a few professors and students at the City College of New York was born the idea in 1956 to form Omicron Chi Epsilon, the only national honor society in economics in existence today. Every year since its formation, Omicron Chi Epsilon has more than doubled its membership. At the present time we have fifteen chapters - welcoming the University of Pennsylvania, University of Texas and St. Peter's College as the newest members of the Society.

The aim of the Society is to stimulate the study of economics among undergraduates, graduate students and professional economists. Omicron Chi Epsilon is devoted to the understanding of economics through the media of discussions, the presentation of essays and the publication of ideas among the students in universities across the country.

In the opinion of the professors, the most valuable vehicle of the Society is its Journal. The Journal, as the official organ of Omicron Chi Epsilon, aims to create and stimulate interest in the field and study of economics. Last year, the Society published a 28-page Journal entirely on its own resources. At present, the Society has a 39-page issue which contains articles and items that attempt to fulfill the objectives of the Journal and the Society.

The editor wishes to express his personal appreciation to members of the editorial board and especially to Professor Peter B. Kenan of Columbia University for his advice and assistance in editing the manuscripts submitted for publication. The editor is also indebted to Miss Valeria Hayden of the Industrial Economics Program of Fordham University for helpful and efficient secretarial assistance in preparing the Journal for publication.

Manuscripts and editorial correspondence relating to the Journal of Omicron Chi Epsilon should be addressed to Enzo V. Allegretti, Editor-in-Chief, Journal of Omicron Chi Epsilon, Fordham University, Box 726, New York 58, New York. No responsibility for the views expressed by authors in this Journal is assumed by the publisher, Omicron Chi Epsilon.

OMICRON CHI EPSILON - NATIONAL HONOR SOCIETY IN ECONOMICS
Founded in 1956

OFFICERS -

President -

Alan Brown - Harvard University - 1958-59
Gil C. Alroy - City College of New York - 1959-60

Secretary Treasurer

Andrew Blair - Fordham University - 1958-59
Joseph Dehler - St. John's University - 1959-60

Regional Vice President - New York Area

Charles Seigman - Columbia University - 1959-60
Werner Zumbrunn - Fordham University - 1959-60

Regional Vice President - New England Area

Saul Hymans - Harvard University - 1958-59
Wayne Starr - Tufts University - 1959-60

Regional Vice President - Middle West Area

Edgar L. Feige - University of Chicago - 1958-59

Faculty Moderators -

Professor Edwin P. Reubins - City College of N. Y.
Professor Francis J. Ullrich - Manhattan College
Professor Charles J. Walsh - Fordham University
Professor William Hamovitch - Queens College
Professor Seymour E. Harris - Harvard University
Professor Lester V. Chandler - Princeton University
Professor Peter B. Kenen - Columbia University
Professor Patrick J. DeTuro - St. Francis College
Professor John J. Clark - St. John's University
Professor Harry B. Ernst - Tufts University
Professor Raymond Ahearne - Boston College
Professor Edward E. Hale - University of Texas
Professor David C. Motter - University of Pennsylvania

JOURNAL OF OMICRON CHI EPSILON

Published by the National Honor Society in Economics

Editor in Chief

Enzo V. Allegretti - Fordham University

Assistant Editor

James J. D'Amato - St. John's University

Editorial Staff

Florence Shlenger - City College of N. Y.

Charles Cavaliere - Manhattan College

George Rath - Queens College

Saul Hymans - Harvard University

John F. O'Keefe - St. Francis College

John A. Walgreen - Boston College

Gil C. Alroy - City College of N. Y.

Andrew R. Blair - Fordham University

Robert Rexrode - Hofstra College

Alan Kahn - Columbia University

Wayne Starr - Tufts University

The Journal of Omicron Chi Epsilon is published once a year in May. All members of the Society receive the Journal as one of the privileges of membership. The price of single copies is 75¢. Correspondence regarding articles submitted for publication in the Journal should be addressed to Editor-in-Chief, Enzo V. Allegretti, Box 726, Fordham University, New York 58, New York.

THE THEORY OF ECONOMIC DEVELOPMENT RECONSIDERED

by FRIEDRICH BAERWALD
Professor of Economics, Fordham University

In his essay on the Treatment of Capitalism by Historians the British economist, T. S. Ashton, is concerned about the fact that many students are being led to identify the critical descriptions of social conditions in the early phases of the capitalistic system with capitalism itself. He points out that among these students there are many "who, in a short time, will be holding positions of authority in industry, commerce, journalism, politics, and administration, and will, therefore, be influential in forming what we call 'public opinion'." Worse still, this group of students includes many representatives of "under-developed countries where the standard of living even today is well below the one characteristic of the working class in England one hundred years ago. Yet these foreign students, after such an indoctrination, return to their countries ever ready to condemn what they think are still present-day "evils of capitalism."

It is not the purpose of this paper to prolong the recent controversy whether the social conditions in the industrial centers in England during the early part of the nineteenth century were really as deplorable as the majority of economic historians has always believed them to be or whether this whole issue ought to be reassessed according to views of the contributors to the collection of essays referred to at the beginning. A more basic problem of economic analysis is indicated by this discussion among these two schools of economic historians which bears investigation.

It seems that once a certain image of the structure and operations of social and economic institutions has been created in the minds of a large number of people, such a concept will become "sticky" and will remain predominant long after the actual conditions which had led to the formation of these impressions have changed radically. The attempt to view (mostly with alarm) a current situation within the framework of the concepts, and a social imagery referring to a past and completely different situation, is not confined to problems of economic history. It also prevails in other fields of economics. It is the purpose of this paper to investigate the validity and the need for expansion of certain widely accepted concepts of economic development.

EXTREME VIEWS ON ECONOMIC DEVELOPMENT

For at least the last one hundred and fifty years, economic growth has been spectacular. In its initial stages it led to the rapid transformation of most of the northwestern European countries and of the U. S. A. into industrialized societies characterized by a broad basis in heavy industries, by large scale exports of manufactured goods, by financial investments abroad, and by the development of high merchant marines. In a second round of world-wide economic growth, this development has spread to virtually all areas of the globe. Differentials in the development of resources and standards of living remain very great on the world wide scale. There is, however, evidence that they have become fluid and that in a foreseeable future the enormous gap separating "have" and "have-not" countries is going to be reduced substantially. Yet, to use Ashton's remark mentioned above analogically, the discussion of problems of economic development continues as though we were still in the early phases of the industrial revolution in Western Europe. In that period, in which the greatest approximation to "laissez-faire" was achieved, the economic system was characterized by frequent crises and panics. The current Communist view of capitalism is still determined by this image. Thus Krushchev has stated recently that "The economy of world capitalism is developing in an exceedingly irregular manner and is becoming still more unstable."²

Now, while the Communists erroneously proclaim that the economic system in the most advanced countries of the Western World is still laissez-faire, capitalism, there are a number of economists in this country and abroad who deplore the fact that it is so no longer, and who criticize the economic policies of Western nations of the last 25 years for having departed from the 19th century pattern.

In his recent book, "The Anti-Capitalistic Mentality,"³ Professor von Mises claims that "The substitution of laissez-faire capitalism for the pre-capitalistic methods of economic management has multiplied population figures and raised in an unprecedented way the average

standard of living." And he ends his treatise with the warning: "What alone can prevent the civilized nations of Western Europe, American and Australia from being enslaved by the barbarism of Moscow is open and unrestricted support of laissez-faire capitalism."

It becomes clear from these quotations that the problem of economic growth and development is linked by economic liberals with a return to complete laissez-faire, whereas the Communists insist that capitalism identified by them with policies of extreme economic liberalism is bound to disintegrate eventually.

Before we examine in some detail the position of von Mises and the problems it posits for a theory of economic development, it is advisable in view of much current confusion to restate briefly the Catholic doctrine in laissez-faire. Certainly the great value of free competition has always been recognized in authoritative statements. In fact, the principle of subsidiarity itself suggests that competitive processes should be given wide scope in the immediate market situation where buyers and sellers confront each other. On the other hand, no Catholic social scientist should overlook the very explicit statement in *Quadragesimo Anno* in this respect. We find specifically a critique of "individualist economic teaching"⁴ which maintains that "in the free struggle of competitors, it would have a principle of self-direction which governs it much more perfectly than would the intervention of any created intellect."⁵

It will be the main burden of this paper to show that the actual changes in the structure of the contemporary economic system have made the alternatives between laissez-faire or statism, offered by the obsolete 19th century economics of liberalism and socialism, unrealistic. New institutions and conditions have developed, in which the guiding principles stressed in the Encyclical can be ascertained and applied by intentional action, without bringing about socialism or centralized planning in the classical sense.

Let us return briefly to von Mises' statement quoted above. In his eagerness to demonstrate the benefits of laissez-faire capitalism, Professor von Mises has assumed positions which simply do not stand up in the course of an examination of facts. It is true that population began to rise very rapidly in the 18th century, and that this trend continued for the greater part of the 19th. But it is equally undeniable that in the later decades of the 19th century, and all the way through to World War II, the birth rate dropped precisely in the most capitalistic countries whereas it remained much higher in those areas which had been touched only slightly by modern economic development. Even today, in Latin America and in India, where the birth rate is highest, the growth of the population is greatest in the non-capitalistic rural areas. Furthermore, the rise in the birth rate in most "capitalistic" countries since World War II has, outside the United States been helped by the opposite of laissez-faire policies, namely, by positive government intervention through the various schemes of family allowances which have been adopted in so many countries. It would be easy to point out other errors of fact in the presentation of von Mises.

However, it is important to examine more closely the underlying concept of economic development, and to show how the traditional approach must be revised in order to achieve again consistency with ascertainable facts of the dynamics of the economic process. We will deal with the changing setting of the investment decision and the need to broaden the concept of economic development itself.

INDIVIDUAL AND INSTITUTIONALIZED ENTREPRENEURSHIP

Closely connected with the traditional liberal view of economic development are such concepts as "venture capital" and profits as "rewards for risk-taking." Especially in the works of the late Joseph Schumpeter we encounter the "entrepreneur," a somewhat lonely figure, always ahead of the unimaginative majority of the business community because he visualizes and arranges "new combinations" which disrupt the humdrum activities of the circular flow and initiate a new phase of economic development. It is interesting to note that, for purposes of his analysis, Schumpeter insisted on the assumption that the entrepreneur always had to appeal to the money market to secure funds for his new schemes and enterprises.

This model of the entrepreneur, and his function in generating dynamic situations, had a good deal of validity for the understanding of the earlier phases of industrial development; when the size of enterprises was small and when many of the older ones were tradition-bound, slow to adopt change, and more willing to make "gentlemen's agreements" with competitors than to increase and change their own output. In the absence of entrepreneurs willing to try something new, and to take risks in a market situation in which long-run trends were hard to anticipate, economic development was bound to come to a halt and to be frozen

into an almost stationary condition.

It is easy to see, then, that the possibility for entrepreneurs to function in such a way was considered one of the most important aspects of "economic freedom," and that this type of economic freedom, in turn, was regarded as the most important prerequisite of economic development and progress. Hence the well known argument, that if the incentives represented by profits on venture capital are being curtailed on the one hand by high taxes and on the other by union-induced high wages, economic development itself is likely to come to an end. If we add that many use the word "socialism" as synonymous with the extension of social security, collective bargaining and subsidies to agriculture and shipping, we then have a complete arraignment of all the arguments which try to present laissez-faire capitalism as the indispensable pre-requisite for further economic progress.

The emotional appeal of this doctrine seems to increase almost in direct proportion to its distance from the institutional realities of our economic system. Actually, the lonely genius of the individual entrepreneur has been replaced by "team management." Most decisive areas of economic activities are dominated by the actions of a few very large enterprises. The rise within the hierarchy of the business management, while not entirely excluding the meteoric ascendancy of some, has become routinized by formal procedures of selection and testing which have recently been described in detail by William Whyte in his disturbing volume, "The Organization Man."⁶

Modern business management has its great rewards, not so much in terms of monetary remuneration but in those of prestige. But management also has built up considerable pressures inherent in all systems of more or less impersonal "collective leadership." Hence the nostalgia for the good old days of economic freedom unhampered by ever present government and the complexities of corporate procedures. However, all these retrospective sentiments are confined largely to the personal feelings primarily of older executives. They do not alter the realities of operation of our highly institutionalized and technologically advanced economic system. It is time for theoretical economists to take cognizance of these developments and incorporate them into the analysis of economic development.

In this paper we must confine ourselves to outlining the facts with which a new theory of decision-making has to contend. Only such a theory can lead to a thorough understanding of the current problems of economic development. The situation which has to be faced can be summarized by the concept of the institutionalization of the entrepreneur. By this is meant the gradual establishment within the structure of business of systematic procedures dealing in a methodical way with problems of economic development, such as introduction and design of products, sales campaigns, innovations in the methods of production, exploration of consumers' responses to new types of products through motivation and market research, mergers and related problems which affect the long-run position of the enterprise. Institutionalization in these fields means specifically the attempt to reduce guess work in economic decisions, to eliminate uncertainty and replace it with projective techniques outlining margins indicating the range of expected changes. Research departments in very large firms, management consultants for smaller ones, contribute a great deal to this process of institutionalized decision-making. Entrepreneurs are, therefore, no longer random phenomena changing a stagnant economic situation into a dynamic one. The creative entrepreneurial function becomes firmly planted in the daily operations of organized business. While at any given moment it is being carried out ultimately by the person who has to make the final decision, what proceeds this action is a protracted systematic procedure of business administration in which an attempt is made to leave as little to chance as is humanly possible.

Institutionalized business is largely engaged in monopolistic competition. That is to say, profits accrue to it not as a "fleeting phenomenon" snatched, as it were, from short lived windfall opportunities, but based on a system of administrative prices. This condition of the market and its price structure has enabled a large number of enterprises to keep part of their revenues from operations as retained profits after payment of taxes and dividends to stockholders. As a result, a considerable proportion of economic expansion, which generates the further growth and development of the system, has been financed from internal sources. This lessened the dependence of large corporations on outside financing. At the same time, the structure of the capital market itself has changed basically from the condition it had under laissez-faire capitalism. This market today does not only represent individual investors faced with the question whether they should invest their savings in new stock issues offered to the public in order to make further economic growth possible; in addition to these individuals there are the institutional investors such as life insurance companies, pension and welfare

funds, which are willing to help finance expansion to that extent that it is not being paid for directly with business savings available to the companies themselves who decide on additional investment.

The theory of economic development must take note of these profound changes in the setting in which expansion is taking place. Not only is the entrepreneur being replaced by management teams and analysts, the financing of economic growth itself is shifting at least in part from individuals as savers to individuals as spenders for consumer goods. In purchasing goods and services which are sold under a system of monopolistic pricing, the consumer unknowingly supplies a considerable part of the funds required for economic development. It is of course true that if there were perfect competition, the consumer price structure could not contain these cost elements for economic growth. Equally, under perfect competition which forces firms to look for external financing exclusively, dividends would have to be higher than they are today in order to attract the required new capital. But monopolistic competition is a fact which cannot be overlooked. The theory of economic development must integrate this condition into its framework of reference. Furthermore, this theory must widen understanding of the different forms in which economic development can take place.

CHANGING ASPECTS OF UNCERTAINTY

Great structural changes of the contemporary market economy have affected the problem of uncertainty which has played such a significant role in the theory of profit and more generally in the analysis of business fluctuations. On the macro-economic scale we have more precise information today on the growth and the composition of the labor force than a few decades ago. Investment plans of business are made known. The inventory position is continuously being reported. Output rates in basic industries and in manufacturing are publicized at frequent intervals. The same is true of department store sales. In addition, there is ample information on changes in monetary and credit conditions and in income payments.

All these innovations and structural changes have not made economic development predictable in a precise manner. It has, however, made it subject to a far better quantitative analysis than was possible at the beginning of the century. Most important, it has enabled the economic analyst to engage, as it were, in meaningful negative forecasts. This is the real meaning of the projection of economic trends into the future. The mere fact that it is easy to forecast a gross national product of \$500,000,000 for year "X" does not mean that such a level will be reached at the time predicted. However, it is possible to visualize what the economic situation would be if this goal of development would not be achieved. Since the growth of the labor force can be forecast with a good deal of certainty, and since productivity trends are also becoming better known, the failure of the system to expand at a rate which would accommodate these changes, while maintaining a reasonable condition of full employment, can be spelled out concretely in terms of future unemployment and general disequilibrium.

To appreciate fully the meaning of this new type of economic analysis, it is necessary to broaden the institutional assumptions used in a theory of economic development. Up to now, this theory has been stated implicitly or explicitly for the case of a laissez-faire system. This is true not alone of "bourgeois" economics, but emphatically also of its Marxist counterpart. After all, the Marxist theory of progressively worsening crises and rising chronic unemployment (the industrial reserve army) presupposes the unrestrained action of the forces of competition in the classical sense. The Communist ideologists for many years after World War II were clinging tenaciously to the assumption that the economy of the West, unable to adjust to a peacetime situation, would move into ever more severe crises.

But the type of economic development visualized by liberals and Marxists alike is only a unique historical case. It does not represent all the possibilities of economic development. This unique form we propose to call spontaneous economic development.

By this type of economic development is meant a state of economic expansion which is the result of the simultaneous operation of a large number of independent variables interacting and converging on a given market situation. The market in this case is characterized by the prevalence of free competition with all its prerequisites of a large number of small firms, and the absence of advance information monopolized by a few. Under such conditions economic development is a response to the challenge of indications of change. The entrepreneurial function is to assess correctly the opportunities rising from such a fluid condition. If enough entrepreneurs read the signs right, there will be economic development. But since the decisions of the entrepreneurs are mere responses to the change in independent

variables over which they have no control, it can be said of this development that "nobody planned it that way." The impersonal forces of the market, especially the flexible mechanism of the price system, will see to it that excesses of expansion will be eliminated. Thus economic development is not only conceived as being spontaneous but is also considered as being endowed with an automatic steering device correcting deviations from the long run trend. It is very interesting to note, that the most ardent proponents of economic "individualism" must rely in their arguments on the effectiveness of these impersonal mechanisms to establish the claim that a laissez-faire economy has an inherent ability to overcome crises, and to respond adequately to the impact of secular changes in the basic conditions.

Actually, economic development is not predicated on the coincidence of spontaneous growth with a laissez-faire structure of the market. There is no doubt that if these conditions prevail, economic progress can be achieved with a minimum of friction and a maximum degree of flexible adjustments. But the economic analyst cannot overlook the fact that in the course of technological progress and its impact on the size of enterprise and the type of production, the institutional prerequisites for perfect competition weaken in key sectors of the economy. An economist has to do more than to deplore situation. His task is analysis, not retrospection. The theory of economic development must be integrated with the theory of monopolistic competition. To do this integration it is necessary first to broaden the concept of economic development.

In addition to spontaneous economic development we find in history, and at present, intentional economic development. This development, again, can occur under two systems of planning: centralized or decentralized. Intentional economic development is linked closely with the economic goals underlying decision-making. In the next section we will show that these goals are conceived very differently under Communism as we have come to know it and in the industrialized system of the West. These differences do not preclude the fact that spontaneous economic growth throughout the world has largely been replaced by intentional economic development.

ECONOMIC GOALS AND ECONOMIC DEVELOPMENT

As is well known, Soviet communism is a system of enforced industrialization which has ruthlessly swept away all vestiges of earlier economic institutions, and has forced at least one generation of Russians to endure great material deprivations for the sake of building up heavy industries and defense facilities. The pace of industrialization was continuously being pushed by a deep feeling of inferiority and insecurity of the Soviet leadership, expressed in their desire to reach, and then bypass, the output and the level of living of the Western world. In this goal the Communists may very well be chasing a phantom, for the simple reason that neither the United States nor the European countries are standing still. They are also moving ahead.

For our purpose it is essential to understand that the rate of economic development in the Soviet Union was set by arbitrary decisions. Output and development goals were established which were far in excess of what would have been required by the natural growth of the labor force. This intentional setting of economic targets was accompanied by a rapid and largely involuntary conversion of agricultural labor into industrial labor, by neglecting the consumer preferences of the majority and by overlooking until recently the problem of agricultural productivity. This is the economic background for the totalitarian political excesses and the accumulating tensions of the Soviet system which are, however, more deeply rooted in their materialistic antihumanism. Because this Soviet economic development was arbitrary in the setting of growth rates, it had to be strictly centralized in planning and execution.

It is, however, a mistake to assume that the only planning which can occur is of this centralized type. Planning can also be carried out in a decentralized way. In fact, this is what is being done today in the United States.

In sharp contrast to Soviet planning, the goals of American economic policies are not arbitrary. There is no attempt and of course there is no need to force the pace of economic growth. The over-all goal of American economic policy, as it is expressed in the Employment Act of 1946, and in the great concern of the political administration regardless of what party controls it, about maintaining prosperity and reasonable levels of full employment

does not intend to impose on the American economy a development pattern which would not be inherently within its grasp. The goal is simply to keep the growth rate of the economy in balance with two variables: the growth of the labor force and the increase in productivity of at least that part of the labor force which is engaged in production and transportation. Since these two variables are known, intentional economic development can be designed to keep the actual operations of business and government at all times on a level which promises to maintain this dynamic equilibrium situation.

Neither government nor industry dictate arbitrarily what the growth or the occupational composition of the labor force ought to be: neither are there centralized decisions dealing with productivity increases to be reached within a given time. Consequently there are, with the possible exception of agriculture and national defense, no output goals or income levels which are set by a central agency. Nevertheless, since the volume of economic activity required for the maintenance of a gliding equilibrium are known, there is also a general knowledge of the level of private investment which is necessary to maintain this dynamic state of affairs. With the increasing size of enterprise, the awareness of the share of large firms in the total volume of investment is keen in the managerial sector. The role of particular firms in the maintenance of economic growth is being clearly understood. Hence, price, wage and tax structures can be assessed within the framework of a clearly seen development goal. Economic growth has ceased to be spontaneous and erratic; it is becoming part of the intentional action of those who by the sheer size of the economic units, private or public, for which they are responsible have become conscious of their unique position in a developing economy.

Here new areas of economic research and theorizing are opening up. It would be futile to try continuing an analysis of our contemporary industrialized system with a theory of economic development which was formulated prior to its emergence.

NOTES

1. Capitalism and the Historians, edited by F. A. Hayek, Routledge & Kegan Paul Limited, London, 1954.
2. Excerpt from speech delivered before the Soviet Communist Party Congress - New York Times, February 15, 1956.
3. The Anti Capitalistic Mentality, by Ludwig von Mises, D. Van Nostrand Co. New York, 1956.
4. Quadragesimo Anno, N. C. W. C. edition - par. 88.
5. Ibid.
6. William F. Whyte, The Organization Man, Harpers, 1956
7. It should be noted that the decentralization of Russian industry and the setting up of economic districts with a somewhat higher degree of autonomy is strengthening, rather than lessening, the significance of the State Planning Commission which is responsible for setting up of the 5-year plans. The elimination of the Ministries dealing with various industries is a streamlining procedure that does not remove centralized planning from the Soviet system.

The Dollar Shortage:

A Comparison of International Trade During the 19th and 20th Centuries

by Donald E. Farrar, Harvard University

Since the cessation of World War I the western nations of the world have experienced a difficulty new to economic history. This difficulty has been called by several names, the most common of which are, the "dollar shortage," "dollar scarcity," or "dollar problem." It is somehow associated with the dominant position of the United States in the 20th century world economy. This fact, however, raises the question: "Why, during the era of British economic dominance, did not a similar phenomenon materialize; why was there no 'sterling shortage' during the 19th century?" This is the central theme of my paper. By comparing the position of Great Britain in the international trade of the 19th century with that of the United States in today's world economy I hope to throw some light upon the basic nature of one of the most serious current economic problems - the present dollar scarcity.

Let me begin by defining, as carefully as possible, the "dollar problem." A "dollar scarcity," or "dollar problem" may be said to exist when a great many countries have chronic difficulty balancing their international payments with the "dollar bloc," in essence, with the United States of America. This, of course, is only a symptom of the problem, not its cause. The dollar problem is merely the manifestation of a demand for North American products by the governments and citizens of the rest of the world in excess of the American demand for the goods and services produced by other nations. In other words, foreigners wish to buy more from the United States than they are able to pay for with the dollars they earn.

The dollar shortage is one of the liveliest of current economic problems. It is the subject of an already voluminous, but still growing literature. It occupies the attention not only of professional economists, but also of statesmen, merchants, and (especially in European countries) the public in general. The dollar shortage was a very real phenomenon during much of the inter-war period. But its critical, theoretical examination during this period was inhibited by at least two factors. First, the basic concepts of classical trade theory - the doctrine of comparative advantage and the automatic equilibrating action of exchange mechanisms - seemed impregnable to attack. Keynes had yet to demonstrate the vulnerability of even the most powerful of classical strongholds. And second, the brilliance of Keynes' attack on classical theory, once launched, and the overwhelming importance of his topic during the 1930's - of income and employment - caused his colleagues to ignore lesser problems. Virtually all theoretical effort was devoted to the consolidation and widening of Keynes' original breach in the classical armor.

Only in the late forties when the initial impetus of the Keynesian Revolution began to subside, and the dollar shortage reappeared with magnified intensity, did the international problem attract the attention of the leading economists. For the first time since 1936, economic theorists turned in some numbers from the problem of income and employment in a closed economy to reevaluate the theory and the problems of international trade. Inspired, perhaps, by the success of Keynes' attack upon classical employment theory, they have begun a vigorous and critical reexamination of the basic postulates of classical trade theory, most of which have stood, without challenge, since the days of Ricardo and Senior. The inadequacy of this theory has been made apparent to economists by forty years of chronic balance of payments difficulty.

I shall not stop here to sketch the classical theory or to explore its confidence in an automatic equilibrating mechanism. The process through which either fixed or flexible exchange-rate systems and the doctrine of comparative costs operate is well enough known. Nor shall I quibble about whether a dollar shortage can or cannot exist, I shall accept its existence as a fact,¹ and proceed to compare certain of its aspects with comparable aspects of 19th century trade. I shall approach this problem in two distinct steps. In Part I, I shall follow several of the more popular lines of deductive analysis, attempting to test them factually whenever possible. In Parts II and III, I shall embark upon what I believe to be a more fruitful mode of inquiry, an institutional approach, which analyzes the changing "structure," or "pattern" of international trade, finance, etc.

A great deal of the analysis of the dollar shortage has been conducted upon a highly abstract plane. Essentially static "devices" such as the income elasticity of aggregate import demand have been employed to explain the dollar problem. This is especially true of much of the earlier dollar-shortage literature. I wish to consider some examples of this type of analysis in this section of my paper, mainly, however, in order to criticize the techniques employed or the results achieved. The dollar shortage is a terribly complex animal. It is not susceptible to analysis by the application of one, or even of a few, purely static concepts. Yet many explanations begin by assuming an international payments equilibrium and proceed by a few purely deductive steps to generate an international disequilibrium which they identify with the dollar shortage. An essential step in such logical exercises is often to assign an arbitrary value to some critical structural parameter in the model under consideration. My objections to these arguments will become clear quite soon.

In his Inaugural Lecture² as Drummond Professor of Political Economy at Oxford, J. R. Hicks, one of the most distinguished of contemporary economic theorists, sets out to demonstrate that the dollar shortage can be properly analyzed "in the classical manner,"³ i.e., using purely static analytical concepts of Ricardo-Senior vintage. Hicks' argument seems to me to be singularly unconvincing. It runs, briefly, as follows.

Consider two countries, A and B (A is understood to represent America and B, Britain), starting from payments equilibrium. Suppose that productivity increases more rapidly in A than in B, but increasing wages in A absorb all of the cost advantages that A would otherwise attain via its productivity gain. The only effect upon the balance of trade will be an increase in A's demand for imports from B due to the relative increase in A's real income. The balance of payments will turn in B's (Britain's) favor.⁴

As productivity may have risen faster in the United States than in Great Britain since 1870, and American labor may be able to expropriate productivity advances as higher wages, Hicks' first approximation seems plausible. But it does not produce a dollar shortage. Instead, it indicates just the opposite conclusion. Hicks, therefore, goes on to observe that productivity growth in the United States has not been "uniformly distributed" throughout its economy, but has, instead, been concentrated upon the import-competing industries.⁵ The significance of this bias is quickly apparent. If wage increases match only the average increase in productivity, while productivity in industries directly competitive with imports increases faster than the average (and, therefore, faster than wages) the prices of such import-competing goods must decline relative to the prices of imports. In order, then, to compete in A's market, the price of B's exports to A must also decrease. Analogously, as the growth of productivity in A's export industries is slower than aggregate productivity growth (and, therefore, slower than wages), the price of A's export goods to B will increase.

This is where Hicks stops. Here, he feels, is the explanation of the dollar shortage. "Whatever are the monetary arrangements, whatever the course of money incomes," Hicks says, "an improvement in A productivity that is import biased must make B worse off."⁶

Hicks goes on to contrast the present balance of payments disequilibrium with the growth of trade in the 19th century. This period, he feels, must have been one in which productivity growth among trading nations was "export-biased."⁷

What Hicks has actually produced is not a complete, logical explanation of adverse balance of payments with A. His argument merely demonstrates that B must experience an adverse turn in its "net barter terms of trade." That is to say, Hicks has concluded that the price of B's export goods has decreased relative to the price of her import goods. In order to transform this change in the "net barter terms of trade" into a deterioration of B's balance of payments, without forsaking his reliance upon classical concepts, Hicks has to make some assumptions concerning each country's price-elasticity of demand for imports. He must, in fact, assume that the two countries' elasticities sum to less than unity. Otherwise, a deterioration in B's "net barter terms of trade" would improve B's balance of payments. If, for example, the price-elasticity of demand for imports exceeds unity in both countries, an adverse movement in B's "barter terms of trade" would automatically improve its balance of payments. For the increased price of country B's imports would diminish the dollar value of those imports, while the decreased price of B's exports would increase their dollar value.

Hicks' own insistence upon the orthodox methods of economic analysis, therefore, commits him to the implicit assumption that the sum of the price elasticities of demand for imports is less than unity.

Let us inquire, now, into the effectiveness of Hicks' approach first by supposing that he had explicitly committed himself to an opinion concerning the relevant price-elasticities, and second, by taking his argument as it stands.

I do not wish to imply that an accurate measurement of elasticities is a waste of time for persons concerned with the dollar problem. The importance of such measurements has long been recognized and innumerable attempts have been made,⁸ mainly because a major policy problem, the advisability of devaluation, depends heavily upon just such measurements. My objection to a heavy dependence upon assumed values of price-elasticities runs quite different. It is, first, that the measurement of aggregate price elasticities in international trade is a complex task.⁹ And second, that numerical estimates of the parameters for a few individual countries are of strictly limited use unless we possess comparable estimates for other countries engaged in international trade. For example, the international repercussions of currency devaluation by one or several nations (even neglecting retaliatory devaluation by other countries) can only be predicted if we know the elasticities of demand of all major nations engaged in international trade. The problem, then, is considerably more complicated than is generally realized. And the effectiveness of traditional analytic tools in the analysis and solution of such problems is much more limited than Hicks' article would lead us to believe.

But perhaps it is unfair to read so much into Hicks' argument. It may stand more firmly "upon its own feet" than it does by leaning on assumptions concerning the elasticities. Perhaps the repercussions of a change in the "barter terms of trade" upon a country's balance of payments is self-evident. If, for example, we were to find a high positive correlation between historical movements in Great Britain's "barter terms of trade" and movements in her balance of payments, we should be required to accept Hicks' point.

In an extremely careful study Professor Albert H. Imlah has attempted to trace trends in the "barter terms of trade" of the United Kingdom through the entire 19th century.¹⁰ His data, of course, are not without flaws; but fortunately their inherent bias is readily apparent and serves to reinforce rather than to contradict the trends which his data reveal. To anticipate the discussion just a bit, Professor Imlah's data reveal an adverse secular movement in the "net barter terms of trade" of Great Britain throughout the first three-quarters of the 19th century, but an improvement during the decades preceding the First World War. Now, Professor Imlah is forced to rely upon antiquated "official customs valuations" for his price indices prior to 1864-69. These values, unfortunately, are derived from price indices based upon 1694.¹¹ The upward bias which such values should attach to "finished goods" (i.e., highly fabricated goods) two full centuries later must be tremendous. Inasmuch, then, as the bulk of English exports in the 19th century were highly fabricated goods, while her imports were mainly primary products, we can see that Imlah's data for the first half of the century must exaggerate the values of British export goods. From 1870 onward, however, Imlah feels that his indices are highly reliable¹² for between 1870 and 1899 he utilizes fairly recent figures provided by Britain's Board of Trade and uses as a base prices prevailing in 1880, a fairly normal year. Imlah uses the 1865-69 period for "splicing together" the old index and the new.¹³ A slight downward bias upon export prices may, therefore, be expected in the backward projection of Imlah's series from the base period of 1880 to 1870. But, we hope, the relatively short elapsed time (a single decade) will render this bias insignificant.

Let us now examine the trend in England's "barter terms of trade" which Imlah's indices uncover, using them as a test of the validity of Hicks' conclusion. From a high of 277.7 in 1802¹⁴ Imlah's "net barter terms of trade" index undergoes an unmistakable secular decline until, in 1882, it reaches a low of 96.0. The process, of course, is subject to frequent temporary interruption, but each declining phase is considerably longer than the subsequent temporary spurt, and in general, each peak and trough is lower than its predecessor. The general downward trend in England's "barter terms of trade" is clear. From 1882 onward, however, Imlah's index gradually rises, until, by 1913, it reaches 122.2. This trend, according to Sir Dennis Robertson, continues unabated throughout Britain's difficult interwar period. In 1938, Robertson states, the price of Britain's exports relative to the price of her imports was 30% higher than in 1913.¹⁵

What conclusion can we draw from these figures? The trends appear decisively to contradict Hicks' argument. During the great century of buoyancy in English international trade the United Kingdom's "barter terms of trade" turned steadily against her. And as Great Britain first began to feel the impact of German and American competition in her export markets (the 1880's), Imlah's index turns again in Britain's favor. The fact that this favorable trend in Great Britain's "barter terms of trade" persists (apparently at an accelerated pace) into the interwar period, when Britain experienced a growing deficit in her balance of payments, demonstrates conclusively the inadequacy of Hicks' analysis. The "barter terms of trade" do not provide a complete theoretical explanation of the United Kingdom's present balance of payments problem. Indeed, instead of finding the positive correlation between Britain's terms of trade and balance of payment movements which Hicks' theory requires, we have found exactly the opposite. Adverse movements in Great Britain's "barter terms of trade" coincided with favorable movements in her balance of payments; conversely, the 1882-1938 period demonstrates that an improvement in her "barter terms of trade" is compatible with a steady deterioration in her balance of payments position. We must, therefore, reject the explanation to which Hicks' reliance upon orthodox concepts has led him.

"Theoretical" explanations of the dollar problem are not always limited to speculation concerning the price-elasticity of demand for imports. Assumptions concerning the income-elasticity of import demand are frequently encountered in the dollar shortage literature. And as in the case of price elasticity assumptions, the approximate value chosen by the theorist for his income-elasticity of demand must occupy a critical place in his model. C. P. Kindleberger's analysis is typical and has the important advantage (from a critical standpoint) of being presented in unusually succinct form.

In an article entitled "International Monetary Stabilization"¹⁶ Kindleberger sketches the following model. Assume an initial balance of payments equilibrium, and that country A's demand for imports from country B is relatively inelastic with respect to income, while country B's demand for A's exports is relatively income-elastic. If, then, both countries experience an equal increase in real income, the balance of payments between them will turn against country B.¹⁷ Any given increase in real income common to A and B will cause a greater increase in B's imports from A than in A's imports from B.

Kindleberger, like Hicks, identifies country A with America and country B with Britain (how convenient it is that the two countries most frequently encountered in the dollar shortage literature lend themselves so easily to abbreviation by the first two letters of our alphabet). Kindleberger then applies his model to present trade difficulties, stating that, in fact "...the demand of the rest of the world for American manufactured products is highly elastic with respect to income and price, whereas the United States demand for foreign products is relatively inelastic."¹⁸

Bold and strategic assumptions of this type are just as dangerous to make and just as difficult to defend as assumptions concerning the price-elasticity of demand for imports. Kindleberger does not clearly indicate whether he is speaking here of short-run (cyclical) changes in income, or long-run (secular) growth. If he is concerned with the secular income-elasticity of demand, his statement can be neither effectively attacked nor defended. Indeed, I personally doubt if such a statement has any prognostic value.¹⁹ Certainly its meaning for the United States is doubtful. The American demand for foreign products depends very much more upon the direction which our own economic development takes upon the range and cost of domestic substitutes for imported products - than it does simply upon the level of aggregate American real income at any point in time. If, however, Kindleberger refers to the short-run, his assumption is open to serious dispute. The record of economic downswings in recent United States history has taught us that even a slight percentage decline in U. S. national income has a greatly magnified impact upon American import demand. As the table below indicates, the huge drop in American income during the 1930's led to an even greater percentage decline in United States imports. The less extraordinary decline of 1937-38, 1948-49, and 1953-54, however, yield even more spectacular results. During these comparatively minor recessions (the 1949 and 1954 dips can barely be perceived in charts of national income) small percentage declines in national income have been multiplied by from four to six times in the American demand for imports. The United States' demand for imports is, therefore, decidedly income-elastic on the downswing.

TABLE I

Year	Net Nat'l Income	% Change $Y_0 - Y_1$	Total Imports	% Change $M_0 - M_1$ M_0
1929	87.4		4.4	
1932	41.7	-52%	1.3	-71%
1937	73.6		3.1	
1938	67.4	- 8%	2.0	-35%
1948	221.6		7.1	
1949	216.2	- 2%	6.6	- 7%
1953	303.6		10.9	
1954	299.7	- 1%	10.2	- 6 1/2%

All figures in billions of dollars.

Ref: Statistical Abstract of the United States, 1948, pp. 276, 902; 1956, pp. 295, 901

During cyclical upswings on the other hand, Kindleberger appears to have the figures on his side. Year-to-year increases in imports have indeed been small - on occasion, even negative - during recent periods of prosperity.²⁰ Vigorous upward spurts in import value, such as occurred during the Korean War raw materials boom, can always be attributed to special circumstances. "Special Circumstances," indeed, appear generally to count much more heavily in the determination of United States imports during booms than to changes in national income. How else can we explain a net decline in aggregate imports across 1951-1953 in the face of a 9 1/2% growth in American income? And if, as an investigation of United States import and income statistics suggests, these variables are poorly correlated during upswings, the income-elasticity of import demand rapidly loses its usefulness, especially as a cornerstone of our theoretical explanation.

Once complications of this sort are recognized, the orthodox concepts which were conceived upon the couch of simplifying assumptions and born into the world of *ceteris paribus* - lose their capacity to explain reality in all of its complexity. Let us proceed, therefore, to a less theoretical, but I believe, more fruitful approach to the dollar shortage and its 19th century antithesis.

II

My approach in this and the next sections of my paper is quite simple. I have chosen several aspects of international trade during this and the last century as appropriate for comparing the American and British situations. The treatment is not intended to be exhaustive, but points of sharp similarity and dissimilarity between the trading positions of the two great countries during their respective "golden ages" of international economic dominance may help to explain our present balance of payments disequilibrium.

The single and most obvious similarity between the international positions of 19th century England and 20th century America is the technological advantage with which each faced its contemporary competitors in the world market. The great advances in technology that the United States has made during the past three-quarters of a century have left the rest of the western world gasping. The present-day gap between American technology and that employed in its most advanced overseas competitors seems insuperable to these competitors.²¹ American business organization and America's widespread use of the most efficient technological developments allow American goods to compete in world markets with comparable products produced by workers receiving fractions of the pay accorded their American counterparts. This occurs, moreover, even though considerable transportation and distribution costs have to be covered and formidable tariff barriers have to be scaled. The United States, however, is not the first country to enjoy so great a productivity advantage. The agility with which British producers and merchants overcome comparable obstacles was as much the wonder of the 19th century. And the success with which foreigners overcame Britain's advantage in 19th century international trade should encourage those who lament the seemingly insuperable productive advantage enjoyed by 20th century America. Let us examine and compare the sources of each country's productivity advantage during its respective "golden age."

Productivity growth, as Hicks points out, is never uniform throughout an economy. It proceeds by spurts, first surging ahead in one industry and then in another. To discover the bases for what one might call a nation's "General technological superiority," we might therefore concentrate upon the few industries in which that nation's superiority is particularly marked, hoping thereby to find the sources of that country's so-called "general superiority." I shall then, approach the problem of technological advantage industry by industry.

First we must find those industries in which 19th century England and 20th century America have enjoyed the greatest productive advantages. The search for areas of exceptional growth and strength in a national economy - for areas where technology and productivity gains are outstanding - should logically begin with that nation's export industry. The industries which are capable of competing with foreign producers in the foreigners' own markets are likely to be industries of exceptional vigor and strength. And, indeed, export industries are commonly progressive industries. In the welfare maximizing, free trade world envisioned by classical trade theory our search for progressive firms and industries would begin and end in the ranks of those engaged in export trade. But discriminatory tariffs, preferential trade agreements, and other obstacles to free international trade, decrease the effectiveness of such an approach. Such barriers to trade were not uncommon during the 19th century, and doubtless distorted the pattern of trade. But they could not have so much distorted the trade picture as to completely eliminate the correlation between "advanced" industries and export industries. Though bothersome, 19th century tariff and other restrictive practices do not completely prevent the use of England's export industries as a starting point in a search for the factors upon which her industrial supremacy was based. Indeed, in the absence of other criteria one is forced to begin this way. But to minimize the distortions which trade barriers introduce I shall focus my investigation upon the twenty year period 1850-1870 when tariff barriers were at an all-time low.

During that golden age of free international trade the paramount British exporter was its cotton textile industry. Other industries began to narrow King Cotton's lead later in the century, but in the two decades here considered, his reign was without challenge. In 1852, 1862 and 1870, total cotton textile exports from the United Kingdom was about two and a half times as large as exports by Great Britain's second largest export industry (see Table II). During these three years, cotton textiles accounted for 28%, 25% and 28%, respectively, of the total value of exports from the U. K. and Ireland.

TABLE II

Leading Exports by Commodity Class of the United Kingdom

Commodity Class	Value, 1852	£ Millions, for year 1862	1870
Cotton mfgd.	22.2	30.5	56.7
Wool, mfgd.	8.7	13.1	21.7
Iron and steel	6.7	11.4	24.0
Cotton, yarn	6.7	6.2	14.7
Linen, mfgd.	4.2	5.1	7.2
Wool, yarn	1.4	3.9	5.0
Coal, et al.	1.4	3.8	5.6
Machinery:			
Steam engines	0.3)	1.6)	2.0)
Other sorts	1.2	4.1	5.3
TOTAL	78.1	124.0	200.0

Ref: Statistical Abstract of the United Kingdom, 1862-78, pp. 32-9, 72-9; 1849-66, pp. 60-7, 26-31. "Total" is aggregate of exports including the above and all commodity classes.

King Cotton, therefore, is the obvious starting point for our inquiry into the sources of Britain's general economic strength during the period in question. Before analyzing the cotton industry, however, let us use Table II a bit more. Note that cotton is not the only

textile industry among England's most vigorous exporters. Of the eight leaders listed above, five are textiles of various sorts. The scope of our task, then, seems to be greatly reduced. Seeking the largest of the British export industries, we have stumbled across four other major and similar producers.

At first glance it is surprising that the greatest of English industries should fabricate a material which the United Kingdom did not produce. That a single cotton plant has ever been grown commercially in the British Isles is doubtful. Great Britain has always been forced to rely upon foreign countries and overseas possessions for raw cotton. The supply of raw cotton flowed steadily from India, Egypt and North America to the workshops of the United Kingdom, there to be made into yarn or cloth and finally to be shipped back to Britain's suppliers or to other foreign markets. About 9/10 of the bulk (8/10 of the value) of English cotton output was sold in overseas markets at the end of the 19th century.²²

The size and efficiency of the long established English shipping industry certainly help to explain the location of Europe's major cotton industry in the British Isles. But it can hardly take full credit. The surprising aspect of the "location" problem is that the cotton industry did not first develop in the nations producing raw cotton. Britain's ability to produce cotton textiles more efficiently and cheaply than the nations supplying raw cotton can only be explained by a great complex of forces which assured England's 19th century industrial dominance.

High among British industrial assets must come her extensive and maritime connections. England's merchant, which efficiently transported the raw cotton to England for fabrication and British textiles to the various markets for final consumption, was less important than the commercial connections, the distribution machinery, - which a century of British maritime predominance had created. The development of England's textile industry was assured, not by the ability of British ships to transport the merchandise, - as the ships of nearly any nation could have done as well, - but by the ability of British commercial organizations to "build up" a market for whatever mass consumption goods English industry could produce. Here the differentiation between "number of ships" and "commercial efficiency" is crucial. Britain's strategic geographical position, from the point of view of world trade routes, and her ever-growing colonial empire also contributed to the expansion of her export markets.

Had any other nation access to so wide a market (potential as well as actual) at the midpoint of the last century? L. C. A. Knowles feels that Holland had an equally efficient commercial organization and shipping industry, and could also have exploited the growing world market for mass consumption goods. How, then, did England gain her advantage over the Dutch?

If not upon the demand side, it must have been upon the supply side. Britain could produce the goods for this hungry market to swallow.²³ Volume upon volume has been written describing in the most minute detail the emergence of an integrated mass production textile industry in Great Britain during the late 18th and early 19th centuries; the network of interdependent inventions which allowed the United Kingdom to carry on the rapid, machine fabrication of textile products from one end of the production process to the other - has been carefully traced and chronicled. Hence a brief recapitulation of this process should suffice here.

Inventions in the field of cotton textile production were numerous, but each was essential to create an integrated, balanced process of mass production. From Hargreaves' "spinning jenny" (1764), Arkwright's "water frame" (1768), Crompton's "mule" (1775) to Eli Whitney's "cotton gin" (1792), and the biggest advances of them all, Kay's "flying shuttle" and the power loom which superseded it, the inventions, coming piecemeal, finally added up to an integrated, mass production, factory process which could satisfy the world's demand for inexpensive textile products.

The great majority of these inventions were of English parentage. But was it English ingenuity alone that tipped the scales in favor of Great Britain? Knowles thinks not and I am inclined to agree. The crucial inventions, though mainly English in origin, could easily have been adopted by other nations. Why not Holland, which, like England, had access to world markets and had the capital and banking system necessary to develop a capitalistic, factory system? Knowles attributes England's success with the factory system to two factors - to the mobility of labor that was assured by the early breakdown of serfdom

in England, and to the simultaneous decay of the craft guilds' grip upon urban production. In addition, the agricultural reforms of the preceding (18th) century released to the factories a substantial portion of England's pool of agricultural labor. These events make the English situation unique, for all other things remained equal - shipping, commercial organization, the availability of technological innovation, and the existence of a reservoir of capital and a banking system for its distribution. It was the inflexibility of Dutch society due to guild restraints that prevented the Netherlands from building a factory system.

Urban factories, however, require more than available labor, ready invention, and markets from which to acquire raw materials and in which to offer finished products. An essential ingredient in the recipe for industrialization is "power." The steam engine, the iron to build it, the coal to power it, and the skills and machinery to construct it were needed to convert small factories at the sites of water power into large factories in the industrial cities. Knowles forges a curious and tenuous chain from (1) a shortage of wood for fuel, to (2) the intensive mining of coal, to (3) the development of the steam engine for pumping water from the mines to (4) the production of iron to be used in steam engines to (5) a need for coal for smelting, and so argues that the development of steam power in England before its development was "natural" upon the continent.²⁵ This chain of causality though too simple to be really defensible, admirably illustrates the interdependence of the stages in the development of this revolutionary source of power. And it strikingly illustrates as well the "good fortune" which placed this power within England's easy reach.

This "good fortune" was the "accessibility" of the United Kingdom's coal and iron supply and of the limestone needed as a flux in iron processing. Many other countries have possessed the requisite deposits of coal, iron and limestone - especially the United States, France and Germany - but in no other case were these mineral deposits so favorably located for early development.²⁶ In no other case could substantial development occur before an extensive transportation system was made possible by the coming of the railroad.

For all of the reasons cited, Great Britain gained an early start in the development of machinery and of the factory system which such machinery made possible. Let us note again that no single factor - neither shipping, nor capital, nor the abolition of feudal restraints, nor natural resources - was unique to England. It was the historical accident that all these permissive conditions were simultaneously satisfied that made possible the early development of industrialization in the British Isles. Once the United Kingdom had gained its initial impetus, however, mere experience began to play an important part. Having developed a machinery industry and a factory system, the British then acquired the all-important engineering and mechanical skills necessary for their effective employment. The development of such skills is necessarily a slow process. Great Britain was therefore able to preserve its early advantage. The acquisition of the engineering skills and labor discipline (acclimatization might be a more polite word) that were necessary to utilize England's new machinery, was much more difficult for comparatively backward countries than the machinery itself.

Let us now turn to England's 20th century counterpart, the United States. Like 19th century Britain, the United States today boasts the most modern and efficient industrial plant in the world, and can frequently hurdle tariff walls, absorb considerable transportation costs and still undersell competitors in the competitors' own markets. What is the origin and the foundation of present-day American technological predominance? In what way is American industrial strength today comparable to English industrial strength a century ago? The comparison will, I believe, help us to understand the present balance of payments disequilibrium.

The sources of American economic strength can be sought quite directly. A roundabout approach, through export industries, is unnecessary because we have available careful, statistical inquiries into international productivity differences. These studies are all the more useful because we cannot employ the approach which we used to analyze 19th century industrial productivity. In trade between the dollar and non-dollar areas today, the free market mechanism is not simply modified by tariff and other "general" trade barriers. It is completely "invalidated" by the existence of exchange controls. As Sir Geoffrey Crowther has observed, the question facing a potential European purchaser of an American product is not simply whether or not the product is available in the United States at a lower price than elsewhere, but whether or not it is available at all elsewhere.²⁷ Where exchange controls exist, therefore, the free market mechanism is supplanted and the American export industries are no more likely than other American industries to evince exceptional

economic strength and vitality. Let us turn, then, to one of the direct quantitative studies of American industrial productivity.

In a careful analysis, Mr. Marvin Frankel of the University of Illinois has tried to explain the productivity difference between 34 American and English manufacturing industries.²⁸ His approach is fairly simple, and I believe, effective. Mr. Frankel chose 34 British and American industries producing reasonably uniform products. Then for a series of base periods - especially the 1948-49 period - Frankel constructs cross-sectional indices of "relative productivity."²⁹ He goes on to consider, in turn, each of several of the reasons most frequently advanced to explain productive differences between nations. In the case of variables lending themselves to quantification, Frankel constructs simple correlation coefficients between variations in the explanatory variables - such as size of plant, size of market, etc. - and variations in the productivity indices. Frankel interprets his data with great caution. Indeed, he attributes less importance to the conclusions suggested by his study than, I feel, they deserve.

Let us start by describing the distribution of Frankel's industry-by-industry productivity ratios. It appears to have no marked central tendency, varying quite evenly from a high of 4.97:1 (i.e., American output per unit of labor input is 4.97 times as great as English) in the production of tin containers, to a low of 0.69:1 for the production of manufactured lace. The arithmetic mean of the productivity ratios for the 34 industries is 2.44:1.³⁰

As might be expected, the average real wage ratio between American and British workers is as might be expected, nearly identical to the average productivity ration, being a little less than 2.5:1.³¹

Now, for the sources of the productivity differential: Frankel first considers the importance of America's most obvious asset, its abundant store of natural resources. Not so long ago, Americans thought natural resource supply inexhaustible. Even today, the United States is occasionally called the "number-one underdeveloped nation in the world," with obvious reference to its incompletely realized resource potential.

Among the most important natural resources possessed by an industrial nation are its coal and iron deposits. As England benefited from the accessibility of these resources in the 19th century, so America today benefits from the relative availability of its coal and iron.

Frankel points out that

Supplies...of...(coal and iron)...are generally more accessible in the United States than in Britain, permitting shallower mines and a larger proportion of strip mining...Over a fifth of total American coal output currently comes from strip mining...in contrast to (only) a twentieth for Britain...(with) the remainder of output coming from shaft workings which, in the United States have an average depth of 190 feet, with a maximum of less than 900 feet, as compared with figures for Britain of 1,170 feet and 3,000 feet. These conditions (of course) make for a far greater expenditure per unit of output of both labor and equipment in the latter country.³²

In mining in general, C. F. Rostas estimates, American productivity is four times that of Britain.³³

Power is another crucial resource. Without inexpensive power for its machinery, a nation is at a considerable industrial disadvantage. The United Kingdom faces just such a disadvantage today. England's coal, as pointed out above, is extremely expensive to mine. In addition, the United Kingdom lacks alternative sources of power. She has very little in the way of hydro-electric power, and so must use expensive coal to generate electricity. Petroleum must be imported by Britain. Finally the British Isles, so recently thought to be blessed with cheap (coal) power, also lacks natural gas.³⁴

Great Britain's dearth of natural resources is not confined to fuels. Frankel cites industry after industry in which the United States' great comparative resource wealth gives her a decisive advantage over her European neighbors (often are large enough to more than offset her 250% wage-cost disadvantage).

A second, and, perhaps, equally important determinant of American productivity is the great size of the domestic market. The American market musters over 160 million potential customers and is blessed with greater "buying power" than any other. This great market's influence upon industrial efficiency is readily apparent. Only with truly gargantuan market can industrial specialization be extended far enough to realize these economies of scale which modern technology makes possible. Other and smaller nations, possessing domestic markets of but a few million persons, cannot afford the huge investment so often necessary to achieve optimum levels of production; their domestic markets are incapable of absorbing the high level of output which such facilities require for efficient operation, and their export markets are so vulnerable to artificial interference, that they cannot be relied upon to absorb the surplus. The possession of a domestic market of great size and stability, then bestows great benefits upon American industrial efficiency, and Frankel finds this argument to be statistically significant. He finds, in fact, that an extremely high correlation exists ($r = .70$, $r^2 = .49$) between efficient aggregate output.³⁵ That is, in the absence of spurious correlation, nearly one half of the variation between British and American productive efficiency is "explained" by differences in the size of the two countries' markets. This is extremely significant correlation, albeit one difficult to interpret. It does not say anything, directly, about the size of the individual firms composing the industries in question, it does not distinguish between large and small firms, but between large and small industries. External economies of scale, therefore, as well as internal economies contribute to the high correlation.

Another relation of some significance at this point is the correlation between size of market and "output per unit of capital (fuel) input," the correlation between market size and the efficiency of capital. Frankel's correlation coefficient is .66, signifying that high output per unit of capital, as well as high output per unit of labor tends to accompany large markets.³⁶

Another determinant of labor efficiency, upon which a great deal of emphasis has been placed in dollar shortage literature, is the relatively high "capital coefficient" in United States manufacturing. Statistical measures of this coefficient, however, are extremely difficult. Qualitative differences in capital have never been satisfactorily handled statistically, while quantitative differences can only be approximated. The best measure of capital intensity available to Frankel was "fuel consumption" in the several industries studied. Frankel transformed this data into thermal input units and used these units to roughly approximate mechanical power input per unit of either output or labor. Frankel could not obtain a significant correlation between this crude measure of capital intensity and industrial efficiency.³⁷

Another relationship examined by the University of Illinois study was the contribution of plant size to productive efficiency - i.e., the role of "internal economies of scale." We have already mentioned the significant ($r = .49$) correlation between efficiency and the aggregate of internal and external economies, represented by the correlation of efficiency with size of market. Frankel tried to isolate the contribution of "internal economies" to productivity by examining differences in plant size. Frankel pursued approaches to this problem - dealing successively with output per plant, employment per plant, and capital (fuel input) per plant. Only the first of these measures, however, offered a significant correlation with efficiency. The number of workers per plant was loosely and inversely correlated with ($r = -.12$); the correlation between quantity of capital input per plant and output per worker was low ($r = .18$). But output per plant was somewhat more significantly correlated with productivity ($r = .51$).³⁸

It would seem, therefore, that "internal economies of scale" and overall efficiency are not closely linked - much less closely, I expect, than most economists have assumed.

In his static, cross-sectional analysis, then, Frankel finds only two of the standard explanations of American productivity - natural resources, and size of market - to be "highly" significant.

But let us not irretrievably tie productivity measures to static concepts. Significant (and measurable) as they are, the actual size of a market, the size of the labor force, wage level, etc., are generally less important determinants of efficiency than are the expected sizes of these variables. Rates of growth and expected rates of growth are often more important than the aggregates achieved at any particular point in time. Thus anticipated growth

of American population and of wage levels may have influenced the level of investment and the receptiveness to innovation in American industry more than any static factors.

A qualitative comparison of certain dynamic elements in Britain and America during the 19th and 20th centuries uncovers many similarities. For example, each nation enjoyed a rapid population growth during its golden age of economic predominance. Each nation experienced an even more rapid growth in the markets served by its industries. Each nation enjoyed ready access to coal and iron deposits and other vital natural resources.

There are, however, certain dissimilarities of significance. While Great Britain sold as much as 90% of the output of her most important industries, e.g., the cotton textile industry, in foreign markets³⁹ the United States possessed a politically secure domestic market large enough to absorb most of her total output. Furthermore, the United States relies upon her domestic economy for the lion's share of her raw material requirements, while the United Kingdom in the 19th century had to rely upon her empire and foreign nations. An interruption in either Great Britain's supply of raw materials or in her access to overseas markets (which interruptions have been frequent in wartime) greatly disturbed the balance of her economy.

These, I believe, are the major physical similarities and differences between the 19th century English and 20th Century American economies. But what of the less tangible characteristics of each in its respective golden era.

III

Of the many such aspects of international trade in this and the last century, two stand out from all others: (1) the structure or pattern of international trade, and (2) the financial organization of the international economy. Changes in these are, perhaps, even more basic to an explanation of the dollar shortage than the shift in technological preeminence discussed above. A brief sketch of these factors must therefore precede consideration of the remaining causes of present-day international economic difficulties with which I shall conclude this paper.

Professor John H. Williams, in his "Stamp Memorial Lecture," speaks of a gradual, but seemingly irresistible, change in the pattern of international specialization and trade, and argues that it is central to any realistic explanation of the present dollar problem. The international economy during modern times, Professor Williams feels, can be likened to a great wheel, with the industrial nations of Western Europe at the hub, and the primary producing nations at the periphery. Throughout the 18th and 19th centuries, economic development took the form of "expansion from a center" - i.e., expansion via geographical discovery and colonization from the "hub" of Western Europe.⁴⁰

The form of this expansion is highly significant. Throughout the 19th century (Professor Williams refers to this as the "early stage" of modern economic development) international trade involved the exchange of complementary products.⁴¹ The older, more highly developed economies at the world's economic hub produced industrial goods. Their head-start in this field bestowed upon them a virtual monopoly of the necessary "industrial skills," and allowed the United Kingdom and her European neighbors to maintain their competitive advantage in "increasing cost" industries. The raw materials and other primary products needed by the industrial hub were furnished by the resource-rich, but less highly developed nations of the periphery of the world economy. The century was one of great and ever-increasing economic specialization. The old world's monopoly of industrial production seemed insurmountable, but the new world's trade in primary products was highly profitable just the same.⁴²

TABLE III
UNITED KINGDOM IMPORTS AND EXPORTS, 1854

Exports by Class, In Order of Value	Imports by Class, In Order of Value
Cotton, yarn and manufactured	Grain
Wool, yarn and manufactured	Cotton, raw
Iron and steel	Sugar
Linen, manufactured	Tea
Machinery	Wool, raw
Ref: <u>Statistical Abstract of the United Kingdom</u> , 1849-66, pp. 26-31 60-67.	

Each of the United Kingdom's five largest exports was highly fabricated, while each of her five largest imports was a primary product. Great Britain's imports and exports, moreover, were intimately interdependent. England's two largest export industries (cotton and wool textiles) which together comprised about half of Britain's total export trade during 1854 both depended heavily upon imported raw materials (raw cotton and wool) for their very existence. Great Britain's major textile exports cannot much vary without inducing parallel fluctuations in the volume of her cotton and wool imports. The importance of this interdependence to England's balance of payments can hardly be overestimated. Basic to a currency shortage is the ability of one nation to run a prolonged payments surplus with the rest of the world. If, however, the value of a nation's import and exports are tied tightly together, as in Great Britain's case, its ability to run such a surplus is greatly reduced. Any sharp increase in the United Kingdom's volume of exports, for example, must quickly cause a corresponding increase in her imports from the primary producing countries. This interdependence can be expected to contribute greatly to balance of payments stability over time.

Let us now look briefly at a similar balance sheet for the United States during the present century (Table IV, below).

TABLE IV

THE UNITED STATES IMPORTS AND EXPORTS, 1936-40, Average

Exports by Class, In order of Value	Imports by Class, In Order of Value
Automobiles	Rubber
Petroleum	Cocoa, coffee and tea
Machinery	Non-ferrous metals
Cotton, raw	Sugar
Iron and steel	Paper and manufactures

Ref: Statistical Abstract of the United States 1948, pp. 912, 914.

The five leading import and export classes during 1936-40 show virtually none of the interdependence that was revealed by the comparable table for 19th century England. Rubber and automobiles are, perhaps, remotely connected. But the other items are not. There is moreover, another sharp distinction between America's and England's top five import articles. Note that four of the five United States items in the interwar period were commodities for which domestic substitutes exist or could be synthetically produced with little sacrifice of economic efficiency. America's fifth import (coffee, et al.) is not competitive with home goods, but can hardly be considered an economic "necessity." Three of Britain's top five imported commodities, however, are basic foodstuffs or raw materials required for its industrial production.

American exports today, then can fluctuate without inducing corresponding import fluctuations, far more easily than could those of England during the century just past. To test this hypothesis - i.e., that 20th century American imports and exports are less closely linked than 19th century English imports and exports - I have chosen a 17 year sample of each nation's import and export totals. The United Kingdom sample includes the period from 1854 to 1870; the United States sample covers 1919 to 1936. The simple correlation coefficient between Great Britain's annual imports and exports is .96. The correlation coefficient for the United States is .87.⁴³ Despite the small size of my sample, I believe that this variation is statistically significant and constitutes a valid test of my hypothesis concerning the two nations' import-export interdependence.

The complementarity of 19th century trade, however, had additional ramifications. It was symptomatic of the growing degree of national economic specialization which characterized that period. This specialization in its early complementary stages, was an unmixed blessing for each party. The relatively backward primary producing nations at the periphery of world trade enjoyed a ready market for their specialties at the world's old industrial hub. Profits from their vigorous trade, eagerly supplemented by capital from the prosperous, industrial heartland, were employed by the peripheral nations to further develop their resource rich economies. Productivity soared in several of these nations - especially

in those on the rich North American continent. But rising productivity brought diversity in economic objectives. The peripheral nations no longer were forced to specialize in raw materials extraction; some of them, notably the United States, were transformed from passive suppliers of raw materials, to industrial competitors. Western Europe's monopoly of funds for capital investment and of industrial skill gave away, and the concentric pattern of world trade began to break down. A second, fiercely competitive industrial hub arose in the western hemisphere and the complementarity which marked 19th century trade gave way to the competition which distinguishes the 20th century.⁴⁴

The disturbing influence of the second industrial hub - of the United States - upon the stability of world trade, Professor Williams feels, is "the basic international trade problem," today.⁴⁵

The second "fundamental" element in an explanation of the dollar problem is the changed structure of the world's money market. The 19th century saw international trade centered upon Western Europe. The world's money market, however, could be even more finely addressed. It was Lombard Street. Throughout the 19th century, London was indeed the financial capital of the world, and the pound sterling a world currency. And as trade boomed and world economic interdependence grew, later in the century, the importance of London in world finance increased.

A very large proportion of the world's international trade was put up by London. Conversely, foreigners... often found it convenient not only to borrow from London but to lend to her, that is, to keep balances with English banks... No foreigner... bothered to think whether what he was holding was just a pound sterling or a claim to so much gold; and no foreign Government which established a gold standard, as many did from 1870 onwards, bothered to think whether what it really wanted was to keep its money stable in terms of gold or in terms of sterling.⁴⁶

The identification of sterling with gold, and, therefore, with "stability" was complete, until the third decade of the present century. The possibility of default or devaluation never crossed peoples' minds. The Bank of England, as custodian of the gold reserves of Great Britain was also, in a sense, custodian of the gold reserves of the world.

The importance of the existence of a single, unchallenged world currency to trade stability is enormous. This is why I identify changes in the organization of international finance as one of the two, basic, non-tangible explanations for today's balance of payments problem.

Trade was generally tied to gold during the 19th century. Balance of payments transactions between nations took the form of the bodily transportation of gold from one nation to another - or to the account of the other in Great Britain. The identification of sterling with gold and of London with the world's financial capital, allowed many transactions to be "cleared" on paper in Lombard Street. To a considerable extent, therefore, the 19th century's world financial system can be likened to a closed national monetary system. It had a single currency and central bank.

What effect does such integration have upon balance of payments stability? In a closed national monetary system no bank need ever default if the central bank is convinced of its basic soundness and has the reserves necessary to provide credit to the distressed bank. In the 19th century, London was the central bank. A debtor nation running a balance of payments deficit with Great Britain was much like a member bank. If London was satisfied as to the basic solvency of the deficit country, and so willing to lend to it, and if it possessed the requisite reserves, the deficit country had never to suffer a sterling shortage. The United States, incidentally, was such a debtor nation. Throughout its colonial history and the first century of its independent existence, the United States was a constant debtor - a net importer - in world trade.

What would happen, however, if the Bank of England - the world central bank - were to exhaust its metallic reserves, and for some reason be unable to attract new reserves to its coffers. The answer is obvious. Other countries could no longer obtain the funds necessary to cover this balance of payments deficits and would have to restrict their imports. We would now face a currency shortage. This is essentially what has happened during the

20th century. Western Europe has exhausted its excess gold and dollar reserves and is unable to attract new reserves in sufficient quantity to cover the purchases she would make from the dollar bloc. A dollar shortage has come into existence. But how has this come about?

First, a "hole" has appeared in the closed international economy we have been discussing. A nation has arisen with an amazing capacity to absorb the metallic reserves of Western Europe - the United States.

Second, the London money market no longer possesses the ability to attract foreign funds that served it so well during the 19th century. Let us examine London's former "magnetism" in a famed period of monetary difficulty, for certain parts of its performance are highly illuminating.

During 1874 a variety of factors put a severe strain upon the Bank of England's metallic reserves. France, following her unsuccessful war with Bismarck's Prussia, was accumulating reserves to prepare the franc for a return to gold convertibility; Berlin, was preparing to mint gold coin for circulation.⁴⁷ An adverse movement in both the volume and terms of British trade accentuated the drain of British reserves.⁴⁸ Pressure upon the Bank of England's treasure continued for some time. In 1878 it was heightened by an internal drain of gold following the crash of the much respected Bank of Glasgow which brought England's entire banking system under suspicion.⁴⁹ To counteract her loss of reserves, the Bank of England increased its re-discount rate substantially despite the existence of a domestic depression which dictated the need for "easy money." Between September and November, the Bank rate rose from 3 to 6%. In addition, "open market borrowing (by the Bank of England) upon Consols and Indian bonds was required to raise the rates in the outer market."⁵⁰ "Directors of French monetary policy," realizing the delicacy of the Bank of England's situation and the importance to international trade of its stability, "were careful not to create (a) panic... (in England's money market)." "Their shrewd judgment in timing the liquidation of their holdings in Lombard Street earned the grateful praise of London's bankers."⁵¹

The care exercised by the Paris bankers as they augmented their country's gold reserves, and the increase in interest rates in London achieved the desired result. Foreign funds were quickly attracted by the high rates from less profitable investment, and the Bank of England recovered its essential metallic reserves. The crisis passed, hardly noticed by the outside world.

It has often been said that "The British Empire can turn around on a shilling." Today this saying is obsolete; but we have an example of its former validity in Great Britain's deft handling of her monetary crisis during the 1870's. The Bank of England's ability to support a great monetary structure upon phenomenally small reserves had several sources:

1. Complete confidence upon the part of foreign, as well as domestic, investors in the stability of sterling. Without such confidence Great Britain could not have diverted funds from foreign money markets into its own simply by raising its rate of interest. For, "when suspicion as to the solvency of the banking system exists, interest rates become subordinate to security"⁵² and no increase in interest rates can attract funds to that banking system.

2. Recognition by foreign investors and governments (e.g., France during 1874) of their own stake in the stability of the London market, and their consequent willingness to cooperate with the British authorities in maintaining that market's stability.

3. The willingness of the Bank of England to subordinate all other policy goals to the maintenance of the value, stability, and integrity of the pound sterling in the eyes of the financial world.

The simultaneous satisfaction of each of the above conditions during England's golden age was a major contribution to the economic stability of that period.

Maintenance of world-wide confidence in the stability of England's currency continued for some time into the interwar period. Not until September 21, 1931 did London, in a single, dramatic moment write end to her career as financial center of the world. A review of the events leading to this dramatic turning point in economic history is unnecessary here. Suffice to say that England's monetary leadership was undermined by the world-wide collapse of financial institutions and obligations that followed the closing of Austria's Kreditanstalt, Germany's Nationalbank, and the "suspension of payment upon Germany's short term indebtedness... a substantial portion of which (was held in) London."⁵³

Other countries reacted swiftly to Britain's suspension of gold payments. Suspension was not a new phenomenon within the world economic community, but an officially sanctioned devaluation of England's currency was without precedent. For the first time in over a century one had to distinguish between sterling and gold. And the world quickly degenerated into three major currency blocs - the Sterling Area, the Dollar Area, and the countries of Western Europe which, "for long clung... to their old, gold perches."⁵⁴

Our discussion of the structure of international finance leads directly to my final topic - the changing function of "government" in national (and international) economic life.

Virtually every paper dealing with 20th century balance of payments difficulties dwells, at least briefly, upon the effect of tariff policy on international trade and so shall I. The differences between British and American tariff policies during the 19th and 20th centuries, respectively, is not without significance. England, between 1850 and 1870, attempted by example and diplomacy to secure the reduction of tariff barriers throughout the world. But the United States has never embraced free trade. There can be little doubt that the dismantling of Great Britain's tariff barriers during this period, even as other nations maintained their barriers against her, enabled foreigners to sell in her market. The highly complementary nature of England's 19th century trade, however, suggests that a major imbalance of international payments would not have been created had Britain followed a less liberal policy during the twenty years in question. Indeed, a much stronger case against 20th century American tariff policy can and is continually made in dollar shortage literature than can be made for Britain's 1850-70 policy of *laissez faire*.

But other forms of government activity are more important for this discussion. Ragnar Nurkse, D. H. Robertson, and many other economists have made the self-evident point that no nation need endure a currency shortage "provided that... (it)... accepts the standard of life to which its relative efficiency entitles it."⁵⁵ The monetary authorities in any stable government, provided they possess the necessary political support, can so tighten credit as to make a depreciation of the value of its currency unnecessary. Monetary policies of this type were "fashionable" during the 19th century. Witness Great Britain's vigorous tightening of credit during the mounting depression of the 1870's⁵⁶

Modern economic sentiment, however, gives greater priority to internal stability than to external stability. In 1874, the ideal governmental policy was one of vigorous monetary restriction to maintain the integrity of the pound sterling. Today, the ideal monetary policy would be one of "active ease" for domestic recovery, even though such a policy may require the suspension of gold convertibility, the imposition of currency exchange controls, and perhaps, devaluation. The Directors of the Bank of England in 1874 were aware only of the importance to "sound banking practice" of maintaining their metallic reserves. The consequences of their tight money policy for England's internal economic health were either unknown to them (they were certainly incompletely appreciated), or were considered to be of secondary significance. Since then, however, economists, governments, and the public at large have become acutely aware of the domestic incidence of government policy, both monetary and fiscal. And, in cases where the interests of internal and external stability come into conflict, governments, being dependent upon public support, generally save the interests of domestic prosperity.

Many statesmen and economists still contend that no basic conflict between domestic and international objectives exists. In the long, long run this may be so. But as Keynes has said, "We live in the short run!" and experience since 1913 has shown us time and again that in the short run a conflict between domestic and international stability does exist. The dollar problem can be speedily solved today if vigorously restrictive fiscal and monetary policies are applied in debtor countries. But what price must these countries pay? The price, of course, is domestic depression and stagnation. It is hardly surprising that governments seldom offer to adopt such policies in the interests of free international trade, and far be it from me to recommend such a solution to the dollar problem.

Instead, governments have followed their "new" concept of economic responsibility, they have vigorously pursued a longer-run solution to their balance of payments problem and have accepted import surpluses as a necessary short-term evil which must be endured if vigorous economic development is to close the productivity gap separating their economies from the United States. Only by "catching up" with American productivity can debtor economies hope to maintain full employment, at the same time that they restore pros-

perous multilateral trade. Pursuit of "sound banking practices," meanwhile, must be abandoned as being incompatible with the goal of domestic prosperity. The maintenance of sound international currencies, essential to successful multilateral trade, has necessarily been sacrificed. We may therefore number our recent advances in economic theory and our new concept of the place of government in economic life among the major causes of our current dollar problem.

The time has now arrived to summarize. After dismissing the efficacy of two common theoretical approaches to the problem of international disequilibrium, we embarked upon a comparison of several, special aspects of the British and American positions in the world economy of the 19th and 20th centuries. In the separate discussion of each such aspect I have made no special attempt to separate those causes of disequilibrium which are "correctible" from those which are not. To do so now, perhaps, will not be out of place.

First, to the extent that America's present productivity advantage rests upon her wealth of natural resources, it would seem to be permanent. But long-range importance of this advantage in an age of ever-declining transport costs is to be doubted, however great its importance now. Second, that portion of the United States' competitive advantage which rests upon its possession of an expanding, prosperous, and politically secure domestic market may be beyond the reach of foreign competitors - unless the European experiment with a common market is highly successful. America's possession of a more highly developed fund of scientific and technological knowledge, on the other hand, can hardly be considered an impregnable bastion of economic strength to those who have studied the relative decline of Great Britain's technological monopoly during the latter part of the 19th century.

Next, a return of international trade from competition to complementarity must be considered. Is such a return necessary to smooth, multilateral trade? And if so, is it possible? The answer to the first question I believe is in the negative - though hardly unequivocal. Perhaps I am swayed by a dislike for pessimism, and by a belief that the answer to the second question must certainly be negative. A return to widespread national economic specialization and complementary trade is impossible, because national self-sufficiency and a share of the world's industrial power is fervently sought in nearly every land.

Can a sufficient supply of acceptable international currencies be made available once again? I have indicated, above, the restoration of international currency stability is inhibited only by the priority given domestic over external stability. To ask whether or not the dollar problem can be solvent is merely to ask, in different words, whether or not currencies can be stabilized without detriment to internal economic prosperity.

Is the dollar problem chronic? That I cannot predict. Its outcome depends upon the ability of Western European nations to close the productivity gap between themselves and the United States. Only time and, I expect, quite a few historical accidents will tell the tale.

APPENDIX 1

CORRELATION: AGGREGATE IMPORT WITH EXPORT VALUES THE UNITED KINGDOM 1854-70

	Imports, Total	Exports, Total
1854	152.4	97.2
1855	143.5	95.7
1856	172.5	115.8
1857	187.8	122.1
1858	164.6	116.6
1859	179.2	130.4
1860	210.5	135.9
1861	217.5	125.1
1862	225.7	124.0
1863	248.9	146.0
1864	274.9	160.4
1865	271.1	165.8
1866	295.3	188.9
1867	275.2	181.0
1868	294.7	179.7
1869	295.5	190.0
1870	303.3	199.6

Ref: Statistical Abstract the United Kingdom, 1862-78, pp. 38, 54; 1849-66, pp. 30, 54.

APPENDIX 2

CORRELATION: AGGREGATE IMPORTS WITH EXPORT VALUES THE UNITED STATES 1919-35

	Imports, Total	Exports, Total
1919	3.9	7.9
1920	5.3	8.2
1921	2.5	4.5
1922	3.1	3.8
1923	3.8	4.2
1924	3.6	4.6
1925	4.2	4.9
1926	4.4	4.8
1927	4.2	4.9
1928	4.1	5.1
1929	4.4	5.2
1930	3.1	3.8
1931	2.1	2.4
1932	1.3	1.6
1933	1.4	1.7
1934	1.7	2.1
1935	2.0	2.3

Ref: Statistical Abstract of the United States, 1937, p. 433.

NOTES

1. C. P. Kindleberger. "International Monetary Stabilization," in Postwar Economic Problem, ed. S.E. Harris, p. 379. "That a shortage exists is supported by the fact that the balance of payments of the United States has recorded surpluses on current account in all but 2 years (1936, 7) since 1919 and the fact that the merchandise trade balance of the country has been favorable each year since... the 1870's."

2. J. R. Hicks. "An Inaugural Lecture," Oxford Economic Papers, June, 1953.

3. Ibid., p. 122.

4. Ibid., p. 124.

5. Ibid., pp. 127-128.

6. Ibid., p. 128.

7. Ibid., p. 128.

8. G. H. Orcutt. "Measurement of Price Elasticities in International Trade," Review of Economics and Statistics, May 1950, note 2, p. 117.

9. Since 1937, a number of attempts have been made to measure the import-price-elasticity of demand for the United States. Similar attempts have been made for other nations of the world. The results have been, at best, disappointing, and more often, completely fruitless. The great majority of these attempts have consisted of single-equation multiple regression estimates of price upon quantity. In his 1950 article (see note 8) Professor Guy Orcutt of Harvard probes deeply into the methodological weaknesses of such attempts, pointing out that high intercorrelation between disturbance, or shift variables, and between these variables and ostensibly independent variables in the aggregate supply and demand relations leaves the econometrician with regression estimates of of neither the supply nor the demand curve, but of the locus of their intersections. The "desired" structural parameters (the price elasticities of supply and demand) remain hidden. In his suggestions for future econometric adventures into the measurement of demand elasticities in international trade Professor Orcutt wisely recommends a shift of emphasis from macro to macro-economic models, and from short term to long term investigations. But even these suggestions fail to get to the basis of the problem - namely the significant intercorrelation between independent and disturbance variables. In order to counter difficulties of this sort future estimates of price elasticities of demand must employ the recently developed (and still rapidly developing) simultaneous equation models which are attracting attention today. But even such elaborated models as these give extremely slim hope for the reasonably accurate measurement of "aggregate" import elasticities. For the foreseeable future, at least, the tremendous complexity of measurement problems seems to dictate that economists satisfy themselves with the measurement of demand elasticities for particular products, preferably over fairly long periods of time, instead of attempting projects in aggregative measurement.

10. A. H. Imlah. "The Terms of Trade of the United Kingdom 1798-1913," Journal of Economic History, November 1950.

11. Ibid., p. 171.

12. Ibid., p. 170

13. Ibid., p. 172

14. Ibid., pp. 177-182. Imlah's "net barter terms of trade" is, essentially the ratio:

$$\frac{\text{Price Index of Export Goods}}{\text{Price Index of Import Goods}}$$

with 1880 as the base year (equal to 100). A declining index, therefore, indicates an adverse turn in England's "net barter terms of trade."

15. D. H. Robertson. Britain in the World Economy, London, 1954, p. 16.
Robertson does not indicate the source of his figures. Their exactitude, however, is much less crucial than their direction.
16. C. P. Kindleberger. "International Monetary Stabilization," in Postwar Economic Problems, ed. S. E. Harris.
17. Ibid., p. 381.
18. Ibid., p. 380. (italics mine).
19. I would not, of course, deny that the concept of income-elasticity has theoretical meaning.
20. Statistical Abstract of the United States, 1956, pp. 295, 901.
21. G. Crowther. Letherbee Lectures, April 18, 1957, Harvard University.
22. L. C. A. Knowles. Industrial and Commercial Revolutions in Great Britain During the Nineteenth Century, London, 1926, (reprinted 1953), p. 27.
23. Ibid., p. 36
24. Ibid., p. 37.
25. Ibid., pp. 27-28.
26. Bowden, Karpovich and Usher, An Economic History of Europe since 1750, New York, 1937, p. 387.
27. Crowther, loc. cit.
28. M. Frankel. British and American Manufacturing Productivity, University of Illinois, Bureau of Economic and Business Research, Bulletin #81, February 1957.
29. By "productivity" Frankel means output "per unit of labor input." Admittedly labor is not the only "scarce" factor whose economy in use can be considered suitable as a base for an efficiency index. But, from an economic point of view it is certainly the most commonly used, and probably, also, the best.
30. Frankel, op. cit., pp. 17-18.
31. Ibid., p. 36.
32. Ibid., p. 33.
33. A. Maddison, "Industrial Productivity Growth in Europe and in the United States," Economica, November 1954, p. 314.
34. Frankel, op. cit., p. 36.
35. Ibid., p. 66.
36. Ibid., p. 67.
37. Ibid., p. 44.
38. Ibid., pp. 58-61.
39. Knowles, op. cit., p. 27.
40. J. H. Williams. Trade Not Aid: A Program for World Stability, "Stamp Memorial Lecture," University of London, Nov. 11, 1952, Harvard University Press, p. 6.

41. Ibid., p. 10.
42. Note the favorable trend, to primary producers, of Professor Imlah's terms of trade index during the 19th century (Imlah, loc. cit.).
43. Ref: Appendices I and II, below
44. Williams, op. cit., p. 10.
45. Ibid., p. 11.
46. Robertson, op. cit., pp. 32-33.
47. W. W. Rostow. British Economy of the 19th Century, Oxford, 1948, p. 182.
48. Ibid., pp. 179-180.
49. Ibid., p. 180.
50. Ibid., p. 183.
51. Ibid., p. 182.
52. R. G. Thomas. Our Modern Banking and Monetary System, New York, 1951, p. 661.
53. Ibid.
54. Robertson, op. cit., p. 34.
55. Ibid., p. 56.
56. Rostow, loc. cit.

BIBLIOGRAPHY

BOOKS

- Bowden, Karpovich, Usher, An Economic History of Europe Since 1750, New York, 1957.
- Bowley, A. L., England's Foreign Trade in the Nineteenth Century, London, 1905 (Reprinted, 1922)
- Frankel, M., British and American Manufacturing Productivity, University of Illinois, February 1957
- Knowles, L. C. A., Industrial and Commercial Revolution in Great Britain During the Nineteenth Century, London, 1926 (Reprinted 1953)
- Nurkse, R., Problems of Capital Formation in Underdeveloped Countries, Oxford, 1955
- Robertson, D. H., Britain in the World Economy, London, 1954
- Rostow, W. W., British Economy of the Nineteenth Century, Oxford, 1948. Ch. 9
- Thomas, R. G., Our Modern Banking and Monetary System, New York, 1951
- Statistical Abstract of the United States
- Statistical Abstract of the United Kingdom

ARTICLES

- Hicks, J. R., "An Inaugural Lecture," Oxford Economic Papers, June 1953
- Imlah, A. H., "The Terms of Trade of the United Kingdom 1798-1913," Journal of Economic History, November 1950
- Kindleberger, J. C., "International Monetary Stabilization," Chapter XXII, Postwar Economic Problems, ed. S.E. Harris, New York, 1943
- League of Nations, Monetary Review: Money and Banking 1938/39, Vol. I, Geneva, 1939
- MacDougall, D., "A Lecture On The Dollar Problem," Economica, November 1954
- Maddison, A., "Industrial Productivity Growth in Europe and in the United States," Economica, November 1954
- Orcutt, G. H., "Measurement of Price Elasticities in International Trade," Review of Economics and Statistics, May 1950
- Robinson, E. A. G., "The Changing Structure of the British Economy," Economic Journal September 1954
- Williams, J. H., "Trade Not Aid: A Program for World Stability," Stamp Memorial Lecture, November 1952
- Crowther, G., "Balances and Imbalances of Payments," Letherbee Lectures, Harvard University, April 1957

LOOKING FOR A JOB?

James J. D'Amato
St. John's University

In a recent magazine article of The Diary of Alpha Kappa Psi titled "Opportunities for Economists," Professor Kratz of Mississippi State University made known the results of a survey taken of some of the largest industrial corporations in America. This survey questioned the opportunities for economic analysts and forecasters in these large companies; and enough answers were received to possibly reflect a cross-section of course requirements and starting salaries paid to those who have completed their college education.

The companies listed below required the following course requirements in the order of relative importance:

Course(s)	Percent
Economics and Statistics	23.9%
Economics only	16.7%
Economics and/or Business Adm.	16.7%
Economics, Statistics, Marketing	11.9%
Economics, Statistics, Accounting	4.8%
Various combinations of Economics, Marketing, Finance, Statistics, Physics, Chemistry, Forecasting, Agriculture Economics, and Liberal Arts	26.0%
	100.0%

Looking at it from the point of view of beginning salaries, there is a salary range from \$4,160 to \$6,000 for a Bachelor's Degree; from \$4,500 to \$7,500 for a Masters; and from \$4,980 to \$15,000 for a Ph.D.

The following table lists the companies used in the survey, what courses they require, and what they offer as a starting salary.

Industrial Corporation	Degree Required	Courses Required	Beginning Salary
Allegheny Ludlum Steel	M. A., M. S.	Stats. Econ. Mkt. Res.	\$6,000
American Can*	B. A., B. S.	Econ. Stats.	\$7,200
American Radiator	B. A., B. S.	Econ., or Bus. Admn.	\$4,160-\$4,680
Armco Steel	B. A.	Econ. Stats.	\$5,400
Armour	M. A.	Econ. Stats.	\$5,200
Atlantic Refining	M. A. or Ph. D.	Econ.	M. A., \$7,500 Ph. D. \$10,000
Borden	Ph. D.	Econ. Stats.	\$6,000
Burroughs	M. A., M. S.	Econ. Mkt., Fin.	\$5,700 - \$6,000
Continental Can	B. A.	Econ., Stats.	\$5,100
Continental Oil	M. A., M. S.	Econ. or Bus. Admn.	\$5,400
Crucible Steel	B. S., M. S.	Econ	B. S. \$5,100 M. S. \$5,580
Deere & Co.	M. A.	Econ. Ag. Econ. Stats	\$5,000
Du Pont	Ph. D.	Econ.	\$4,980
Eastman Kodak	B. A.	Econ. & Phys. Chem. or Math	\$5,280
Firestone Rubber	B. A.	Econ. or Mkt. and Stat	\$4,800
General Electric**	M. A.	Econ. Stats. & Fore- casting	\$5,500 - \$6,500
General Foods	B. A., M. A.	Econ.	\$4,500
General Motors	B. A., M. A.	Econ. Stats.	B. A. \$4,500-\$5,000 M. A. \$4,800-\$6,000

<u>Industrial Corporation</u>	<u>Degree Required</u>	<u>Courses Required</u>	<u>Beginning Salary</u>
General Tire & Rubber	B. S.	Econ. Stats. Mkt. Res.	\$5,100
International Harvester	B. A., B. S.	Econ. or Bus. Admn.	\$4,800-\$5,100
International Shoe	B. S.	Mkt.	\$4,500
John Morrel	B. A.	Econ.	\$4,800
Johns-Manville	B. S.	Bus. Admn. & Econ.	\$6,300
Minneapolis-Honeywell	B. A., M. A.	Econ.	\$4,800 up.
Ohio Oil	B. A., B. S.	Arts, Sciences Math, Stats.	B. A. B. S. \$4,500
	M. A., M. S.	Bus. Admn. & Econ.	\$4,800
	or Ph. D.		M. A. M. S. \$4,800-\$5,100
			Ph. D. \$5,700
Pillsbury Mills	M. A.	Ag. Econ.	\$5,400-\$6,000
Raytheon Mfg.	M. S.	Bus. Admn. (Econ.)	\$6,000-\$7,200
Republic Steel	?	Econ. Stats. Acct.	\$5,400
Reynolds Metals	Ph. D.	Econ. Stats.	\$10,000-\$15,000
Reynolds Tobacco	B. A., B. S.	Mkt., Stats. Econ.	\$4,500
Scott Paper	B. S. ?	Bus. Econ. Stats.	\$4,800
Shell Oil	B. A., B. S.	Bus. Acct. Econ. Stat.	\$4,500-\$5,160
Standard Oil (Ind.)	B. A., B. S.	Econ. Bus. Mdt. Stat.	\$5,640
Standard Oil (N. J.)	Ph. D.	Econ. Fin. or Foreign Exch.	\$9,000
Sun Oil	B. S.	Econ. Stats.	\$5,000
Sunray Mid-Continent Oil	B. S.	Econ. Stats.	\$4,800-\$6,000
Swift & Co.	B. A. M. A.	Econ. Bus., Stats.	\$4,200-\$5,700
U. S. Steel	M. B. A.	Econ. Bus.	\$5,304
W. Va. Pulp & Paper	M. S.	Bus. Admn. Mkt. Res. Econ	\$6,000-\$7,200
Western Electric	B. A. M. A.	Econ. Stat. & Lib. Arts	B. A. \$4,500
			M. A. \$5,000
Weyerhaeuser Timber***	B. A. M. A.	Econ. Stats. Fin.	\$5,100-\$5,400

* Three years research experience required.

** Some business experience highly desirable.

*** Previous employment with same company in another capacity desirable.

CHAPTER NEWS

THE CITY COLLEGE OF NEW YORK - ALPHA CHAPTER

The Alpha Chapter has had a veritable revival during the past terms. The outgoing national president, Alan Brown, and the former regional vice-president, Charles Siegman, have deposed efforts designed to infuse new blood and vitality into the Chapter during a somewhat lethargic 1957/1958, and in consequence, the Chapter developed rapidly into an active grouping, that soon attracted attention and new members. All the while, our faculty adviser, Professor Edwin P. Reubens served as the center of organization; around his busy office was unfolded the new, dynamic life of Alpha Chapter.

All of our graduating members will go into graduate work. Gil Alroy has been appointed a Woodrow Wilson Fellow, and was elected to Phi Beta Kappa. He is undecided, at this time, whether he will go to Princeton or to Columbia in order to specialize in Eastern European and Soviet affairs. Carol Blitz will go to Johns Hopkins. She intends to specialize in International Affairs. Barry Freudreich will continue his work at the American University. Joel Unger, and Dianne Silverman, have not decided on the school at this time. Robert Posner will work for his Master's at Columbia, specializing in economic development. Ed Lebovitz will go to Minnesota, while I go farther west to Berkeley. Our Chapter president, Cepora Weg has won a New York Regents Fellowship. The past term has distinguished the Chapter on our campus. Our faculty-student tea, held December 23rd, was one of the most successful social occasions of the year. Over one hundred hours of free tutoring were given by our members to lagging students in the college. Preparations have been concluded for a senior colloquium on a topical economic problem. Our Chapter has also been honored by the election from its midst of Gil as our new national president, and of Bob as a member of the policy committee at the recent national convention.

Currently all efforts are devoted to the recruiting of suitable juniors into the Chapter in order to ensure a meaningful continuity of OXE at the City College. Six juniors have already been added to the Chapter. The membership drive will be highlighted at the forthcoming April meeting of the Chapter, at which new officers will be installed. It is significant to emphasize that all graduating members have expressed concern over the possibility of maintaining contact among all via the organization. The realization is growing among us that this purpose will be best served if graduating members will attempt to create new chapters in the several universities, or endeavor to strengthen the lines of existing chapters in universities which already possess initial ties to the national executive committee.

MANHATTAN COLLEGE - BETA CHAPTER

The year 1958 was both a happy year and a sad year for us. It was happy because we received our charter from OXE, and it was sad because our original members have graduated. All is not lost, however, since we already have inducted new members into OXE. Our faculty member, Dr. Francis Ullrich, expects more new members to be admitted soon.

We are planning to hold more informal meetings in the near future in order to stimulate interest in the field of economics while at the same time increase the activity of the Chapter.

A very sincere thanks is offered to Dr. Ullrich by the members for his work toward our Chapter's progress.

One point of interest - most of our original charter members are continuing their education at the graduate level. This is a record we hope to maintain.

FORDHAM UNIVERSITY - GAMMA CHAPTER

The big news at the Rose Hill Chapter is the record amount of Fordham men who have held national office. Joe Humphrey '58 was the society's second National Secretary-Treasurer. Andy Blair '59 was its third. Enzo Allegretti '53 is now serving his second term as Editor-in-Chief of the Journal. Bill Carroll '59 was one of the District Directors for New York Region. Werner Zumbrunn '60 was just elected Regional Vice-President for the New York area.

Where are they now? Enzo Allegretti is teaching at the Fordham School of Business; Joe Humphrey is attending Michigan Law School; Ed Beuchert '58 is studying law at Harvard; Jim Lynch '58 has a graduate assistantship at Fordham; Sebastian Raciti is a Ph. D. candidate at Fordham and Phil Cody is an economic analyst for Seagram's.

Plans for the future: Tom Butler and Bill Carroll plan to attend Virginia Law School, (Tom was Student Prexy this year incidentally). Dan Ashley, Ray Schuler and Ed Malench all plan to study law. Mike Gray and Andy Blair will attend the N. Y. C. School of Business Administration. Some of the other boys plan to attend also on a part-time basis. Andrew Blair has been awarded a Fordham University Fellowship in Economics.

At this writing most of the fellows haven't yet received word on their fellowship applications. However, Charlie Vaughan has been awarded a New York State Regents Fellowship. Some of the others have received "feelers" on fellowships, assistantships, etc., and should get them.

Marriages: Congratulations to Tom Butler and Charlie Vaughan who took the plunge into the "See" of Matrimony in September and December respectively.

Looking at the Chapter as a whole, Fordham has retained all of the vitality and initiative it possessed at its inception. This success is attributable for the most part to the able guidance of Dr. Charles Walsh our Faculty Moderator. Throughout the school year, under the direction of Dr. Walsh and the Chapter Officers (Enzo Allegretti, Andy Blair, Bill Carroll and Dan Ashley) meetings have been held twice a month. In May, Gamma Chapter plans to hold an informal social attended by both students and faculty. An eminent economist will address the gathering. At present, Fordham is one of the largest chapters and its future looks bright.

We know that the Society will join with us in extending condolences to Dr. Walsh, whose wife passed away last January.

QUEENS COLLEGE - DELTA CHAPTER

Delta Chapter of Omicron Chi Epsilon has, as in past semesters, devoted a large part of its activities toward providing leadership for the Economics Club at Queens College.

The activities of our organization last semester were highlighted by a pair of well-attended lectures given by members of the College's economics faculty. Early in the semester Professors William Withers and Josef Soudek engaged in a lively discussion of the causes of the recession in 1958. Later in the term, Professor Soudek gave an informative lecture, describing in detail many scholarship opportunities available for economic students in graduate school.

Joseph Stern, current president of Delta Chapter, has indicated that these faculty lectures will continue. A debate between Professor Withers and Professor William Hamovitch, faculty advisor to the Queens Chapter of Omicron Chi Epsilon, has been arranged for later this semester. Also planned is a talk on job opportunities in the field of economics, and a visit to the Federal Reserve Bank to hear a special lecture about that institution.

Mr. Stern, in addition to being president of Delta Chapter of Omicron Chi Epsilon, is also president of the Economics Club at Queens. A member of the Class of January 1960, he plans to specialize in economics of underdeveloped nations, with special attention on the Far East.

George Rath, past president and current historian of Delta Chapter, and Marvin Grossman, current secretary-treasurer of the Chapter, leave Queens this June via graduation and will continue their studies at the graduate level.

Mr. Rath will prepare for a career in industrial relations at Cornell's School of Industrial and Labor Relations; Mr. Grossman has been accepted to the University of Illinois where he will continue his education in the field of mathematics.

Arnold Levine, Susan Saffer, Richard Kovner and Carol Levy complete the list of active members of Delta Chapter. All except Miss Levy are economics majors. Mr. Levine and Mr. Kovner plan to specialize in international trade, while Miss Saffer's career aims are directed towards corporate law.

Delta Chapter is proud that the last two Economics Department awards at commencement have gone to members of Omicron Chi Epsilon. The recipients were Rober Hartman (June 1958) and William Calby (January 1959). Mr. Hartman, also a member of Phi Beta Kappa, is now studying for his Ph.D. in economics at Harvard. Mr. Calby, who also re-

ceived the honor of outstanding male graduate in his graduation class, is presently employed by the accounting firm of Price Waterhouse and Company.

HOFSTRA COLLEGE - EPSILON CHAPTER

Our biggest event this year was being host to the 1959 Convention of OXE and it certainly was an honor. The members of this Chapter and the faculty did their share of the work in preparing for this Convention which (I'm sure all will agree) was a success.

The second biggest event was Kenneth Haase going abroad to study at the London School of Economics - Good luck, Ken.

Once again we would like to affirm what has been said before and that is we are proud to be a Chapter in OXE. In addition, we offer Alan Brown our sincere thanks for building OXE and at the same time wish Gil Alroy, our new president, a very successful year.

HARVARD UNIVERSITY - ZETA CHAPTER

The Harvard Chapter of Omicron Chi Epsilon spent its first full year in existence attempting to initiate procedures and precedents which would guarantee the perpetuation of the Chapter. Our main accomplishment was the setting up of an elaborate admissions procedure which in our interpretation fostered the ideals of OXE, i.e., stimulation of genuine interest in economics while concurrently benefiting both members and candidates for membership. This end was accomplished by requiring oral presentation of an original paper before a hearing committee composed of OXE members. Once the grade and concentration requirements had been met final memberships hinged on the presentation of the original paper. In the course of presenting the paper the candidate was obliged to defend his position, clarify his stand, draw policy implications, or answer any other such questions put to him by the hearing committee. These hour-long sessions proved to be of great use in inspiring personal confidence, testing knowledge, and dispersing sound opinions.

Several members of the Harvard Chapter have had personal distinction conferred upon them as they continued their careers in economics or moved on to other fields:

Arnold Cook, after a year spent at Harvard, returned to Australia where he is an Associate Professor in Economics at the University of Southwest Australia. "Bill" Hughes is now a teaching fellow at Harvard and will receive his Ph.D. this summer. Alan Brown is preparing for two years of study under a Foreign Area Training Fellowship for the Ford Foundation. Part of his time will be spent in Geneva. Alan is also preparing for the arrival of his second child. "Dave" Bernstein (Treasurer) has been accepted at the Harvard Law School, as has "Lee" Gold, our Secretary. "Mickey" Falkson is looking forward to graduate work in economics, and a summer wedding. "Mickey" will undoubtedly be in the Cambridge area for his graduate work. "Steve" Marglin (undergraduate Vice-President) has received a Henry Fellowship which will enable him to pursue his study of economics at Oxford for one year, following which he will return to Harvard. Saul Hymans (President) has received a Woodrow Wilson Fellowship and will most likely continue his work in economics at the University of California in Berkeley. The first addition to Saul's family is expected in April and will probably have arrived before publication of this edition of the Journal. Thomas A. Wilson received a predoctoral Ford Foundation Fellowship. Glenn Miller, Jr. published an article in the Business History Review (a Harvard Business School publication) about Mortgage Loans in the 1880's (the exact title of the article is too long to quote.) Donald E. Farrar published two articles: 1) "New Developments on the Oligopoly Front" Comment, "J.P.E.; 2) "Cycles in Adrenal Steroid Excretion in a Male," Journal of Endocrinology and Metabolism. (Don Farrar is also the author of the article on dollar shortage that we are publishing in the Journal.)

Zeta Chapter has admitted thus far about ten new members, and has been ably assisted by its Faculty Adviser, Professor Seymour E. Harris. Harvard and the newly formed chapters in the Boston area look forward to hosting the National Convention next year.

COLUMBIA UNIVERSITY - THETA CHAPTER

We certainly have had big events here lately. One of our members, Raymond Lubitz was awarded a Kellett Fellowship by Columbia to study economics at Oxford, England. Another member, Alan Kahn, was awarded an Earhart Fellowship by Columbia to continue his education there. The biggest event we saved for last. Benjamin Cohen took on additional responsibilities by getting married. At present our other members are applying to graduate schools for acceptance to continue their education.

We would like to thank our faculty for the assistance and advice they have given us, and we are all looking forward to another successful year in OXE.

ST. FRANCIS COLLEGE - IOTA CHAPTER

The Iota Chapter of Omicron Chi Epsilon was established at St. Francis College in May 1950. It was not until the following September, however, that the organization really began to grow. Mr. Patrick J. DeTuro, Assistant Professor of Economics at St. Francis, recognized the importance of the Society to the student of economics, and agreed to become faculty moderator of the Chapter. The addition of three new members, during the Spring Term, also helped to establish a solid organization.

The major activities of the Chapter are centered around the regular monthly meetings. The meetings are conducted on an informal group discussion basis. The topics of discussion at the meetings vary greatly and deal with various aspects of economics. The members are able, through the discussion sessions to supplement their classroom material. The meetings have proved most successful in providing the members with information concerning graduate school. We hope that as the Chapter grows, we will be able to retain this informal atmosphere.

In February, three of our members, John Astarita, Hugh Lynch and John O'Keefe were elected to the Duns Scotus Society of Saint Francis College. This is the highest honor that the College can bestow on a student. The fact that three of our members were so honored is a personal pride not only to them, but also to the Society.

The Chapter will lose five of its members in June via graduation. The five are - John Astarita, Rev. Bro. Leon, O.S.F., Hugh Lynch, John O'Keefe and Thomas Walsh. Most of these men plan to continue their studies upon graduation. John Astarita, Vice-President of the Chapter, plans to continue his studies in the field of Retailing at New York University. Hugh Lynch is also headed for New York University where he intends to study Banking and Investments. Bro. Leon who has been teaching while completing his requirements at St. Francis, will continue to teach. John O'Keefe, President of the Chapter, intends to continue his studies in the field of Industrial Relations at either Cornell University or New York University. Thomas Walsh, Secretary of the Chapter intends to study for his Masters at City College.

ST. JOHN'S UNIVERSITY - KAPPA CHAPTER

On November 18, 1958 a new chapter (Kappa) was added to the growing national honor society - OXE. Twenty-six members were inducted at this time which makes Kappa Chapter the largest active Chapter.

The installation dinner was held on January 21, 1959 at Michel's in Brooklyn and was very impressive not only to the members present but also to the officers of OXE and the invited guests. The affair started with a full course dinner (roast beef) and each person was given a menu card which served many different purposes. On the menu card was a brief history of OXE, the qualifications necessary to be admitted, a list of other chapters and schools, a program of the affair, the names of the incoming members, both student and faculty, and last but not least the menu for the meal.

This induction dinner was unique at St. John's because the students who were married were allowed to bring their spouse and those who were single were allowed to bring dates. The program started with a brief talk from Jim Gorman (Chapter President) who was the toastmaster. Presentation of scrolls and keys was next in order and the Dean presented these to the new members as they were called from their seats to the dias. Next, Alan Brown presented the charter to Jim Gorman and expressed his wishes for our success (thanks Alan). Professor Kiernan was anchor man and he left us with a few words of wisdom (Professor Kiernan and Professor Clark, who are the faculty members, played an important part in forming this Chapter and the members of Kappa Chapter thank them sincerely for their help).

Once again the members of St. John's reaffirm what has been said before both by the faculty and the students to the effect that we are going to do all we can to continue to the success of OXE.

TUFTS UNIVERSITY - LAMBDA CHAPTER

The Tufts Chapter has mainly been planning for next year. All the faculty have volunteered to speak at another college at least once a year. An "outline" of the speech will be sent in advance along with a suggested chapter or two of background reading.

We are still receiving applications and as it is the desire of the faculty and the members to keep the Lambda Chapter limited to twelve or fourteen members, we have become very selective.

Professor Ernst has been appointed advisor. The group plans to hear papers together (the presentation of a paper is one of the requirements for entrance). In the fall, September, October and November, these will be presented at the rate of once a week. Two weeks in advance the paper will be mimeographed and sent to each of the members of the faculty of the Economics Department for comment. Copies will also be given to each of the members.

Until we select the last few members, we cannot set an initiation date. But by April 30 we will probably have our initiation ceremony.

A library is being set up for the Honor Society and a room is going to be turned over to our disposal. Lambda Chapter would like to know what professors from other colleges are willing to speak at another college.

BOSTON COLLEGE - MU CHAPTER

The Mu Chapter of Omicron Chi Epsilon was established at Boston College on February 25, 1959. There are twenty charter members of this chapter who met the requirements of excellence in economics and proven leadership in general academics and extracurricular activities. The officers are John White, President; Frank Pettie and Robert O'Leary as Vice-Presidents; Robert Doyle, Treasurer; and Frank Collins, Secretary. The faculty moderator for the Chapter is Raymond J. Aherne, A. B., A. M., Boston University; Ph. D., Boston College, who is an Associate Professor of Economics and also faculty moderator for the Boston College Economics Academy. Mr. Frank Pettie represented the Chapter at the national convention in New York.

Economics is in an unique position at Boston College inasmuch as it is offered as a major in both the College of Arts and Sciences and the College of Business Administration. In fact, economics is the largest major in the College of Arts and Sciences. There are presently 253 Juniors and Seniors majoring in economics at the University according to information provided by the Department of Economics. The Graduate School of the University confers the degrees of Master of Arts and Doctor of Philosophy in the Department of Economics. Professors in the Department of Economics are active as advisors to business and local, state, and national governments. In keeping with the traditions and goals of the University and Omicron Chi Epsilon, the Mu Chapter will strive to promote excellence in the study and application of economics.

PRESIDENT'S REPORT

1958 - 1959

Alan A. Brown

Less than two years ago Omicron Chi Epsilon was only a modest beginning of a national honor society, composed of five dedicated chapters at the City College of New York, Manhattan College, Fordham University, Queens College and Hofstra College. Today we have 14 chapters covering an ever-widening geographic area. New chapters have been established at Harvard University, Princeton University, Columbia University, St. Francis College, St. John's University, Tufts University, Boston College, University of Pennsylvania and University of Texas. There are a number of other schools where chapters should soon be chartered.

Omicron Chi Epsilon is an honor society. It confers recognition for outstanding academic work but it also aims to promote the activities of its members in the field of economics. Our activities are conducted on three levels, on the national, regional, and chapter levels. The national organization holds annual meetings, conventions, and it publishes the Journal. Last year, at a meeting held at Fordham University, Dr. George Garvey, Senior Economist of the Federal Reserve Bank of New York, addressed the Society. Two years ago, Dr. Nicholas Kaldor from Cambridge, England, was the guest of honor at the Society's annual dinner. At the Annual Conventions the official business affairs are to be followed, in the future, by presentation of papers written by the members. On the regional level we envision an ever-increasing cooperation among our chapters. Mr. Charles Siegman, our Regional Vice-President for New York has organized meetings within his region and in the New England region plans have been made to invite professors regularly from various universities to speak to joint meetings of several chapters. On the chapter level periodic meetings have been conducted usually with guest speakers. Some chapters are beginning to follow the practice established by the Harvard chapter which consists of presentation of papers by candidates for membership. The papers are read and discussed in small groups, the groups being composed of those members who share an interest in the particular subject.

During the past year two standing committees were established. The first one is a Senior Advisory Board composed of the faculty advisers of our chapters; the other one is the Committee on Policy which consists of former national officers and of some promising junior members of the Society. Both Committees stay in close contact with the Executive Board. Members of the Senior Advisory Board offer much-needed advice and guidance. One of the major functions of the Committee on Policy is to enable the former national officers of the organization to transmit their experience to the new officers and to other members.

Since its establishment only a few short years ago Omicron Chi Epsilon has grown with remarkable vigor and speed. It would be impossible to pay tribute to all those who have helped to make our Society. A key role is performed by the faculty advisers to the individual chapters who help to lend continuity to their chapters. The faculty adviser of our Alpha Chapter, Professor Edwin P. Reubens of the City College, deserves a special note. We appreciate the support he has given us on many an occasion. Another crucial role is performed by the presidents of the chapters and by the other chapter officers. In any year, the strength of a chapter and its worthwhile activities are the most eloquent tribute to their officers' organizing capacity. Among the many able chapter officers Jim Gorman, president and organizer of the Kappa Chapter at St. John's University, merits special recognition. Finally, may I be permitted to express my personal appreciation to the members of the Executive Board who conscientious cooperation provided for a smooth functioning of our Society. In particular, Mr. Charles Siegman, New York Regional Vice-President; Mr. Joseph Humphrey, former Secretary-Treasurer; and Mr. Andrew R. Blair, present Secretary-Treasurer have contributed to the success of the Society with their organizing ability and tireless energy.

The past year claimed two young lives in our midst. Professor Stefan Valavanis, the first faculty adviser to the Harvard Chapter met with cruel fate in Greece where he was visiting last summer. Another tragic casualty was Mr. David Zimmerman, president of our Delta Chapter at Queens College. Those who have known them will always cherish their memory. We join their bereaved families in their mourning.

REPORT OF THE NATIONAL PRESIDENT
by Gil C. Alroy

The outgoing president has done more than his share. In fact, it is virtually impossible for anyone within our organization to duplicate Alan Brown's accomplishments because our honor society could only have been created once, and this Alan did.

As I begin my new office I am fortunate in receiving a growing structure. From Alpha down to Mu, we now count active chapters at CCNY, Manhattan, Fordham, Queens, Hofstra, Harvard, Princeton, Columbia, St. Francis, St. John, Tufts, and Boston College.

A dynamic beginning by Kappa Chapter has won the admiration of us all. Only a few months old, this group of mature and dedicated men and women has enrolled twenty-six members; has given a successful inauguration dinner; has volunteered valuable services for the national executive; and is now preparing a public colloquium on economic topics. Jim Gorman has already won his accolade.

Our February 28 Convention has pointed to a weakness; at first, we were strangers, though all active members of a relatively small organization. When the meeting ended, we had come to know so many wonderful new friends. This is the best remedy. We must try to get to know one another. It is not sufficient to build the net of relationships about a cluster of central figures. This will in time breed oligarchic tendencies, and will defeat the primary rationale of our organized existence. I suggest that, at the very least, the regional vice presidents should maintain a close contact among themselves and among the chapter presidents.

This leads me to a problem that will grow in its immediate urgency as we constantly expand. In the beginning this new organism is absorbed in the great act of creation and maintenance. Like newly won sovereignties, we are so glad that we're we, and we worked so hard to gain our new collective identity, that questions of ultimate purpose must, needs be, vague and distant. To this, we must now begin to give attention. Will we just go on adding new chapters and gloss in our statistical wealth, or will we find a sense of fulfillment for our academic lives and careers? Will we epitomize our association in metal keys, or in the forging of ideas and bonds of friendship? You will guess that I possess a precious little prejudice in these matters. Won't you make your thoughts known too?

I know that Barbara Brown will never sue OXE for the uncounted months of work she so lovingly gave to our Society, and for which no payment was ever reckoned in legal tender. I wish to repay her in tender thanks. Omicron Chi Epsilon belongs to all of us, and to her. She knows it.

Minutes of the Fourth Annual Convention of Omicron Chi Epsilon
Held at Hofstra College, February 28, 1959

The meeting was called to order at 2:45 P. M. Representatives from City College, Manhattan College, Fordham University, Queens College, Hofstra College, Harvard University, Columbia University, St. Francis College, and St. John's University were present. Also in attendance were delegates from Tufts University and Boston College who were petitioning for admission.

The President appointed Robert Hartman as official Parliamentarian.

The National Secretary-Treasurer and the District Director for New England attested that both Tufts and Boston College met all the standards and requirements of the Society and recommended that they both be accepted as chapters of the Society. The motion was unanimously approved by the group.

The President in his report expressed sorrow at the deaths of Professor Valvanis, faculty moderator of Harvard, and David Zimmerman, chapter president of Queens College. He asked the group to join him in a moment of silence.

He thanked the hosts for the Convention, Hofstra College, for providing such fine facilities. Mr. Brown said that he was gratified to see that most of the chapters had sent adequate delegations to the Meeting. The faculty advisers present at the gathering were commended for their interest. It was observed that the three chapters admitted during the past year had displayed vigor and promise. (St. John's had been admitted earlier in the year). Hope was expressed that several new chapters would be admitted in the near future. The University of Pennsylvania was in the process of establishing a chapter and interest in the Society had been displayed at the Universities of Texas, Michigan, Chicago, Minnesota, Florida, New York University and Lehigh.

Mr. Brown commended the National Secretary-Treasurer, Andrew R. Blair, for his conscientious handling of the financial and secretarial affairs of the Society and observed that both he and Mr. Blair had worked closely together during the past year. The President also cited the invaluable contributions made by the Regional Vice-President for New York, Charles Siegman, and the Editor-in-Chief of the Journal, Enzo Allegretti. The other regional directors also received recognition for their time and effort.

The President also expressed the hope that, in spite of the growing size of the Society, the close ties of friendship among the members would be maintained. He also said that he desired to see all of the members seriously considering placing his own name or some one else's in nomination for national office. He added that if a candidate was not successful now, he would surely attain an office in the future.

The National Secretary-Treasurer, in his report, stated that the Net Worth of the Society as of February 28, 1959 was \$431.78. He added that the final and official financial report would be made at the end of the fiscal year. At that time the report would be audited, mimeographed and sent to each member.

The duties of the Standing Committee to Revise the Constitution were explained. All chapters are represented on this committee and each has one vote. Its main purpose is to discuss informally what changes in the Constitution may be needed.

The motion was made to send the suggested revisions to the President who in turn would submit them to the various chapters for approval. The revised Constitution would be then printed subsequent to the chapters' approval. The motion was carried unanimously. A more unwieldy method had been proposed which involved printing the tentatively revised Constitution and then submitting it to the chapters for approval.

It was explained that the Committee on Audit customarily met at the same time as the Constitutional Committee. The question was raised as to the difficulty of meeting because of distance when there are proposals to be considered. The President explained that proposals are made during the year by mail either to the President or Secretary-Treasurer who have authority between meetings. The specific question of distance was left open for discussion.

A motion was made that the Regional Vice-Presidents represent chapters in their area at any committee meeting if the chapter is unable to attend. It was added that the chapters should definitely be informed that a meeting is to take place. A further motion was made that Regional Vice-Presidents represent chapters only if authority has been specifically delegated to them by the chapter.

Attention was called to the fact that Article VII, Section 4 should be interpreted as covering all the above contingencies. The Regional Vice-President for New York called attention to Article VII, Section 6 which states that Vice-Presidents should hold regional meetings at least once a year.

The Convention also proposed a Constitutional amendment to Article VI, Section 8 regarding the length of term of national officers. Previously the term had been from Convention to Convention. Section 8 would now read: "The term of office for national officers shall be one year commencing June 1st. The election shall be an item of business of the Annual Convention."

The group then proceeded to the election of national officers for the coming year. Mr. Gil Alroy of City College was elected as National President by the Secretary's unanimous vote (on the part of the delegates). Mr. Joseph Dehler of St. John's University was elected unanimously to the position of National Secretary-Treasurer. Mr. Enzo Allegretti of Fordham was re-elected unanimously as Editor-in-Chief of the Journal. Mr. Werner Zumbrunn of Fordham was unanimously elected as Regional Vice-President for New York. Mr. Wayne Starr of Tufts was also elected as Regional Vice-President for New England by a unanimous vote. It was agreed upon to permit the National Executive Board to appoint the remaining Regional Vice-Presidents as the need for them arises.

The method of initiating chapters between Conventions was mentioned.

The group then discussed the appointment of members to the various committees. Each chapter is to send a delegate. It was suggested that this be effected by correspondence with the chapters in which they would be asked to indicate when delegates would be available. It was suggested that a notice be made of the deadline by which names for the committees must be submitted.

The President encouraged members to seek nomination to the Committee on Policy. It would consist of five or ten members plus the old members of the National Executive Board. Fred Casey of St. John's, Robert Posner of C. C. N. Y were unanimously appointed. Mr. Brown expressed the desire to appoint one or two members from Harvard to the committee. This was also approved. The remainder of the nominations would be sent to the National Executive Board. It was hoped that the Policy Committee would maintain a close connection with the Regional Vice-Presidents.

The group agreed to hold the Fifth Annual Convention at Harvard.

Mr. Brown asked the chapters to submit their chapter news for the Journal as well as any papers they deem worthy of publication.

Mr. Siegman suggested that the chapters induct new members before the end of the year in order to ensure that a chapter will always be in existence at each school.

Frank Pottee was appointed by the New England Vice-President as a District Director for New York at that time.

A formal motion was made that the Convention publicly thank Mr. Alan Brown, president and founder of the Society, for his tireless leadership, initiative and conscientiousness during the past four years. The motion was carried unanimously.

The meeting adjourned at 6 P. M.

By My Hand This Twenty-
Eighth Day of February, 1959

Andrew R. Blair
National Secretary-Treasurer

NATIONAL JEWELERS FOR OMICRON CHI EPSILON

THE SHILLING CO.

Manufacturers of Medals, Trophies, Rings, Pins, etc.



EIGHTY NASSAU STREET

NEW YORK, NEW YORK

CORtlant 7-3394

